

This rule was file as CSMC Rule 79-1.

TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 8 COAL MINING
PART 36 NEW MEXICO COAL SURFACE MINING REGULATIONS

19.8.36.1 ISSUING AGENCY: Coal Surface Mining Commission
[Recompiled 6/4/02]

19.8.36.2 SCOPE: [RESERVED]
[Recompiled 6/4/02]

19.8.36.3 STATUTORY AUTHORITY:
[Recompiled 6/4/02]

19.8.36.4 DURATION: [RESERVED]
[Recompiled 6/4/02]

19.8.36.5 EFFECTIVE DATE: [Filed February 12, 1985]
[Recompiled 6/4/02]

19.8.36.6 OBJECTIVE: [RESERVED]
[Recompiled 6/4/02]

19.8.36.7 DEFINITIONS: INITIAL REGULATORY PROGRAM:

A. DEFINITIONS (700.5): These definitions except as otherwise provided for in this section shall apply to Sections 15 through 38 [now 19.8.36.7 NMAC, and 19.8.36.22 NMAC through 19.8.36.44 NMAC].

*Corresponding section number of federal regulations is in parenthesis.

(1) Auger mining means a method of mining coal at a cliff or highwall by drilling holes laterally into an exposed coal seam from the highwall and transporting the coal along an auger bit to the surface.

(2) Coal means combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite by A.S.T.M. designation 0-338-66.

(3) Director means the director, office of surface mining reclamation and enforcement, or his representative.

(4) Federal lands means any land, including mineral interests, owned by the United States without regard to how the United States acquired ownership of the lands and without regard to the agency having responsibility for management thereof, except Indian lands; provided, that for the purposes of the Act lands or mineral interests east of the one-hundredth meridian west longitude owned by the United States and entrusted to or managed by the Tennessee Valley Authority are not subject to sections 714 (Surface Owner Protection); and 715 (Federal Lessee Protection) of the Act.

(5) Imminent danger to the health and safety to the public means the existence of any condition or practice, or any violation of a permit or other requirement of the Act in a surface coal mining and reclamation operation, which condition, practice or violation could reasonably be expected to cause substantial physical harm to persons outside the permit area before such condition, practice or violation can be abated. A reasonable expectation of death or serious injury before abatement exists if a rational person, subjected to the same condition or practice giving rise to the peril, would not expose himself or herself to the danger during the time necessary for abatement.

(6) Office means the office of surface mining reclamation and enforcement established under Title II of the Act.

(7) Operator means any person engaged in coal mining.

(8) Permit means a permit to conduct surface coal mining and reclamation operations issued by the state under state law.

(9) Permittee means any individual, partnership, association, society, joint stock company, firm, company, corporation, or other business organization holding a permit to conduct surface coal mining and reclamation operations issued by the state under state law.

(10) Person means an individual, partnership, association, society, joint stock company, firm,

company, corporation, or other business organization.

(11) Secretary means the secretary of the Interior or his representative.

(12) Significant, imminent environmental harm to land, air or water resources is determined as follows:

(a) An environmental harm is any adverse impact on land, air or water resources, including but not limited to plant and animal life.

(b) An environmental harm is imminent if a condition, practice or violation exists which is causing such harm or may reasonably be expected to cause such harm at any time before the end of the reasonable abatement time that would be set under section 521(a)(3) of the Act.

(c) An environmental harm is significant if that harm is appreciable and not immediately reparable.

(13) State program means a program established by a state pursuant to section 503 of the Act to regulate surface coal mining and reclamation operations on lands within such state in accord with the requirements of the Act and regulations issued by the secretary under the Act.

(14) State regulatory authority means the department or agency in each state which has primary responsibility at the State level for administering the Act under both the initial and permanent regulatory programs.

(15) Surface coal mining operations means: (a) activities conducted on the surface of lands in connection with a surface coal mine or subject to the requirements of Section 516 surface operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include excavation for the purpose of obtaining coal including such common methods as contour, strip, auger, mountaintop removal, box cut, open pit and area mining, the uses of explosives and blasting and in situ distillation or restoring, leaching or other chemical or physical processing, and the cleaning, concentrating or other processing or preparation, loading of coal for interstate commerce at or near the mine site; provided however, that such activities do not include the extraction of coal incidental to the extraction of other minerals where coal does not exceed 16 2/3 per centum of the tonnage of minerals removed for purposes of commercial use or sale or coal exploration subject to Section 512 of the Act; and (b) the areas upon which such activities occur or where such activities disturb the natural land surface. Such area shall also include any adjacent land, the use of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of such activities and for haulage and excavation, workings, impoundments, dams, ventilation shafts, entryways, refuse banks, dumps, stock piles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas and other areas upon which are sited structures, facilities or other property or material on the surface, resulting from or incidental to such activities.

(16) Surface coal mining and reclamation operations means surface coal mining operations and all activities necessary and incidental to the reclamation of such operations. This term includes the term "surface coal mining operations."

(17) Ton means 2,000 pounds avoirdupois (.90718 metric ton).

(18) Approval of the state regulatory authority means approval by the chief of the bureau of surfacemining unless such approval is subsequently withdrawn by the commission.

B. DEFINITIONS (710.5): As used throughout the initial regulatory program the following terms have the specified meanings unless otherwise indicated:

(1) Acid drainage means water with a pH of less than 6.0 discharged from active or abandoned mines and from areas affected by coal mining operations.

(2) Acid-forming materials means earth materials that contain sulfide mineral or other materials which, if exposed to air, water or weathering processes, will cause acids that may create acid drainage.

(3) Alluvial valley floors means unconsolidated stream-laid deposits holding streams where water availability is sufficient for subirrigation or flood irrigation agricultural activities but does not include upland areas which are generally overlain by a thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits by unconcentrated runoff or slope wash, together with talus, other mass movement accumulation and windblown deposits.

(4) Approximate original contour means that surface configuration achieved by backfilling and grading of the mined area so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain, with all highwalls and spoil piles eliminated; water impoundments may be permitted where the regulatory authority determines that they are in compliance with Section 715.17.

- (5) Aquifer means a zone, stratum or group of strata that can store and transmit water in sufficient quantities for a specific use.
- (6) Combustible material means organic material that is capable of burning either by fire or through a chemical process (oxidation) accompanied by the evolution of heat and a significant temperature rise.
- (7) Compaction means the reduction of pore spaces among the particles of soil or rock, generally done by running heavy equipment over the earth materials.
- (8) Disturbed area means those lands that have been affected by surface coal mining and reclamation operations. "Disturbed area" is synonymous with the words "affected area" used in Section 1 through 37 [19.8.36.8 NMAC through 19.8.36.43 NMAC].
- (9) Diversion means a channel, embankment, or other manmade structure constructed for the purpose of diverting water from one area to another.
- (10) Downslope means the land surface between a valley floor and the projected outcrop of the lowest coalbed being mined along each highwall.
- (11) Embankment means an artificial deposit of material that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways, or other similar purposes.
- (12) Essential hydrologic functions means, with respect to alluvial valley floors, the role of the valley floor in collecting, storing, and regulating the natural flow of surface water and groundwater, and in providing a place for irrigated and subirrigated farming, by reason of its position in the landscape and the characteristics of its underlying material.
- (13) Flood irrigation means irrigation through natural overflow or the temporary diversion of high flows in which the entire surface of the soil is covered by a sheet of water.
- (14) Groundwater means subsurface water that fills available openings in rock or soil materials such that they may be considered water-saturated.
- (15) Highwall means the face of exposed overburden and coal in an open cut of surface or for entry to an underground coal mine.
- (16) Hydrologic balance means the relationship between the quality and quantity of inflow to, outflow from, and storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake or reservoir. It encompasses the quantity and quality relationships between precipitation, runoff, evaporation and the change in ground and surface water storage.
- (17) Hydrologic regime means the entire state of water movement in a given area. It is a function of the climate, and includes the phenomena by which water first occurs as atmospheric water vapor, passes into a liquid or solid form and falls as precipitation, moves thence along or into the ground surface and returns to the atmosphere as vapor by means of evaporation and transpiration.
- (18) Impoundment means a closed basin formed naturally or artificially built, which is dammed or excavated for the retention of water, sediment or waste.
- (19) Intermittent or perennial stream means a stream or part of a stream that flows continuously during all (perennial) or for at least one month (intermittent) of the calendar year as a result of groundwater discharge or surface runoff. The term does not include an ephemeral stream which is one that flows for less than one month of a calendar year and only in direct response to precipitation in the immediate watershed and whose channel bottom is always above the local water table.
- (20) Introduced species means a species which does not occur naturally in an area.
- (21) Leachate means a liquid that has percolated through soil, rock or waste and has extracted dissolved or suspended materials.
- (22) Native species means a species which either originated in an area or became naturalized and occurs naturally in an area.
- (23) Noxious plants means species that have been included on official state lists of noxious plants for the state in which the operation occurs.
- (24) Overburden means material of any nature, consolidated or unconsolidated, that overlies a coal deposit, excluding topsoil.
- (25) Outslope means the exposed area sloping away from a bench or terrace being constructed as a part of a surface coal mining and reclamation operation.
- (26) Productivity means the vegetative yield produced by a unit area for a unit of time.
- (27) Recharge capacity means the ability of the soils and underlying materials to allow precipitation and runoff to infiltrate and reach the zone of saturation.
- (28) Roads means access and haul roads constructed, used, reconstructed, improved or maintained for

use in surface coal mining and reclamation operations, including use by coal-hauling vehicles leading to transfer, processing or storage areas. The term includes any such road used and not graded to approximate original contour within 45 days of construction other than temporary roads used for topsoil removal and coal haulage roads within the pit area. Roads maintained with public funds such as all federal, state, county, or local roads are excluded.

(29) Recurrence interval means the precipitation event expected to occur, on the average, once in a specified interval. For example, the ten-year 24-hour precipitation event would be that 24-hour precipitation event expected to be exceeded on the average once in ten years. Magnitude of such events are as defined by the national weather service technical paper no. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

(30) Runoff means precipitation that flows overland before entering a defined stream channel and becoming streamflow.

(31) Safety factor means the ratio of the available shear strength to the developed shear stress on a potential surface of sliding determined by accepted engineering practice.

(32) Sediment means undissolved organic and inorganic material transported or deposited by water.

(33) Sedimentation pond means any natural or artificial structure or depression used to remove sediment from water and store sediment or other debris.

(34) Slope means average inclination of a surface, measured from the horizontal. Normally expressed as a unit of vertical distance to a given number of units of horizontal distance (e.g., 1v to 5h=20 percent=11.3 degrees).

(35) Soil horizons means contrasting layers of soil lying one below the other, parallel or nearly parallel to the land surface. Soil horizons are differentiated on the basis of field characteristics and laboratory data. The three major soil horizons are:

(a) A horizon. The uppermost layer in the soil profile often called the surface soil. It is the part of the soil in which organic matter is most abundant, and where leaching of soluble or suspended particles is the greatest.

(b) B horizon. The layer immediately beneath the A horizon and often called the subsoil. This middle layer commonly contains more clay, iron, or aluminum than the A or C horizons.

(c) C horizon. The deepest layer of the soil profile. It consists of loose material or weathered rock that is relatively unaffected by biologic activity.

(36) Spoil means overburden that has been removed during surface mining.

(37) Stabilize means any method used to control movement of soil, spoil piles or areas of disturbed earth and includes increasing bearing capacity, increasing shear strength, draining, compacting or revegetating.

(38) Subirrigation means irrigation of plants with water delivered to the roots from underneath.

(39) Surface water means water, either flowing or standing, on the surface of the earth.

(40) Suspended solids means organic or inorganic materials carried or held in suspension in water that will remain on a 0.45 micron filter.

(41) Toxic-forming materials means earth materials or wastes which, if acted upon by air, water, weathering or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

(42) Toxic-mine drainage means water that is discharged from active or abandoned mines and other areas affected by coal mining operations and which contains a substance which through chemical action or physical effects is likely to kill, injure or impair biota commonly present in the area that might be exposed to it.

(43) Valley fill and head-of-hollow fill means a structure consisting of any materials other than waste placed so as to encroach upon or obstruct to any degree any natural stream channel other than those minor channels located on highland areas where overland flow in natural rills and gullies is the predominant form of runoff. Such fills are normally constructed in the uppermost portion of a V-shaped valley in order to reduce the upstream drainage area (head-of-hollow fills). Fills located farther downstream (valley fills) must have larger diversion structures to minimize infiltration. Both fills are characterized by rock underdrains and are constructed in compacted lifts from the toe to the upper surface in a manner to promote stability.

(44) Waste means earth materials, which are combustible, physically unstable, or acid-forming or toxic-forming, wasted or otherwise separated from product coal and are slurried or otherwise transported from coal processing facilities or preparation plants after physical or chemical processing, cleaning or concentrating of coal.

(45) Water table means upper surface of a zone of saturation, where the body of groundwater is not confined by an overlying impermeable zone.

[Recompiled 6/4/02]

19.8.36.8 PERMIT APPLICATION - FEES: A permit application accompanied by a written mining plan and signed by the operator shall be filed with the director of the mining and minerals division of the energy and minerals department (hereinafter director) along with the application and initial acreage fees required by Section 69-25-8 NMSA 1978, or such other application fee which may be subsequently established by regulation of the commission pursuant to Section 10 (A), Laws of 1979, Chapter 291.
[Recompiled 6/4/02]

19.8.36.9 MINING PLAN: The mining plan prepared by the operator for approval by the Director shall set forth the following information:

- A. a statement of the operator's name and address and the name and address of the person designated by the operator to receive service;
- B. a description of the affected area;
- C. the owner of the affected area;
- D. the owner of the coal to be mined;
- E. an estimate of the acreage to be affected during the operator's first year of the operation; for operators conducting mining operations on February 29, 1972, acreage shall be computed from that date;
- F. a topographical map or maps of the area to be affected prepared on a scale suitable to facilitate interpretation showing the following:
 - (1) an outline and total acreage of the permit area and of the area anticipated to be affected by the mining operations;
 - (2) the location of any areas within the permit area which were affected prior to February 29, 1972, provided, however, that mining plans submitted for underground permits shall show the location of any areas within the permit area which were affected prior to May 4, 1978;
 - (3) drainage on and away from the affected area, showing direction and an estimate of the quantity of flow of water in drainways and natural surface water courses and streams (intermittent or flowing) discharging onto and receiving discharge from the affected area in its original character and as it is anticipated to be during mining and following reclamation;
 - (4) surface topography at an appropriate contour interval;
 - (5) location of land to become affected area during the first calendar year next succeeding February 29, 1972, in the case of operators conducting mining operations on that date or the location of land to become affected area during the year immediately succeeding the issuance of a permit in the case of operators requiring a permit before commencing operations;
 - (6) date the map was prepared or updated;
 - (7) north point; and
 - (8) name of United States geological survey quadrangle, if any, covering the same area.
- G. a diagrammatic sketch comparing the physiographic features of the area prior to mining operations, with a projection of the physiographic features of the affected area after reclamation;
- H. the present use of the land to be mined and the surface owner's proposed end use of the affected area including, as may be known, current and planned uses of surrounding land which by proximity may influence or guide the choice of end use in the affected area;
- I. a summary of the climatological (including as available temperature ranges on a monthly basis, a statement of the annual rainfall for the preceding ten years in the area to be mined and maximum and minimum annual rainfall, if possible, on a monthly basis), topographical, soil, water, agricultural and wildlife data and other factors that influence the current use of the affected areas and will influence the proposed use of the reclaimed land;
- J. an estimate of any water to be stored, diverted or used and any resulting pollutants;
- K. a description of the soil types and analyses of the soils in the area to be affected prepared in conformance with professionally accepted standards (National Cooperative Soil Survey's Basic System of Soil Classification);
- L. an estimate, on the basis of presently available information, of the range of depths of surface mining operations for which the operator requests the permit;
- M. an estimate of the anticipated volume of overburden to be removed and its placement;
- N. an estimate of the acreage to be affected on an annual basis;
- O. the depth of the topsoil in the affected area before any mining takes place;
- P. the efforts which will be made to remove and preserve topsoil prior to mining;

- Q. a detailed proposal and time schedule for grading the affected area; the grading schedule shall be set out graphically on a separate copy of the topographical map;
 - R. a description of the existing vegetation in the area to be affected and a description of the vegetation as it is anticipated to be following reclamation, including a description of the general type or species of plant to be initially utilized in the revegetation procedure, together with estimates of planting times and growths to maturity;
 - S. a detailed proposal and time schedule for revegetating the affected area;
 - T. the type and quantity of any organic material or soil conditioner to be introduced in the affected area prior to or during planting;
 - U. a tentative statement of the operator's present plan with respect to revegetation and reclamation efforts not otherwise set forth in the proposed mining plan;
 - V. the location where waste materials will be deposited and the period of time for depositing waste materials in a given location prior to grading;
 - W. any comments which the operator feels may be desirable, including comments on any anticipated reclamation problems; and a statement that the operator shall comply with all of the general performance standards contained in these regulations.
- [Recompiled 6/4/02]

19.8.36.10 SUBMISSION AND APPROVAL OF MINING PLAINS:

- A. At least 50 days prior to submitting a permit application accompanied by a mining plan, the operator shall file with the director a notice of its intent to do so. The notice shall include all of the information required by Section 2 [now 19.8.36.9 NMAC] above along with such other information as the operator may consider necessary or useful to the director.
 - B. Within 15 days after receipt of a notice of intent to submit a mining plan, the director shall establish the date and place of a hearing on the environmental impact of the proposed mining plan. The hearing shall be held in the county in which the mining is to be carried out.
 - C. Notice of the hearing on the environmental impact of the mining plan shall be given at least 20 days prior to the hearing, printed in a paper of general circulation in the county or counties in which the mining is to be carried out. The notice shall state the name of the operator, the area to be covered by the mining plan, the time and place of the hearing, and where the proposed mining plan and accompanying information shall be available for inspection and copying by the public at reasonable times.
 - D. Reasonable effort shall be made by the director to give notice to all persons who have made a written request for advance notice of environmental impact hearings.
 - E. Any person desiring to present evidence or give testimony at the environmental impact hearing on a proposed mining plan shall file a request to do so with the director at least ten days prior to the hearing. The director will transmit a copy of the request to the operator at least five days prior to the hearing. The request shall contain the name and address of the person desiring to participate and a plain and concise statement of the nature of the person's interests.
 - F. Any person who has filed a timely request to participate in a hearing on the environmental impact of a proposed mining plan shall be given reasonable time at the hearing to submit relevant evidence, data and views and shall be allowed to call and examine witnesses, introduce exhibits, cross-examine witnesses and submit rebuttal evidence.
 - G. The director may designate a hearing officer to take evidence at the hearing on the environmental impact of a proposed mining plan. The hearing officer so designated will preside and will have authority to direct the hearing, to examine witnesses and to make such rulings on evidence as may be necessary. The director shall maintain a verbatim record of said hearing and such record shall be a part of the record of the permit application hearing.
 - H. Within ten days after receipt of a permit application accompanied by a mining plan, the director shall establish a date for the permit application hearing to be held in Santa Fe.
 - I. Notice of the permit application hearing shall be given to the operator at least 15 days prior to the hearing.
 - J. Permit application hearings shall be conducted in accordance with the procedures set out in Section 8 [now 19.8.36.15 NMAC].
- [Recompiled 6/4/02]

19.8.36.11 MINING PLAN AMENDMENTS: For good cause shown, mining plans may be amended with the approval of the director. Upon request of the operator and upon 15 days notice to the operator, the director shall

set a hearing on any proposal to amend a mining plan. The hearing shall be conducted in accordance with the procedures set out in Section 8 [now 19.8.36.15 NMAC].
[Recompiled 6/4/02]

19.8.36.12 OTHER APPROVALS: Applications by operators to the director for approval shall be deemed to be application for extension of time to permit compliance with the requirement of obtaining such approval and the pendency of such application shall entitle the operator so applying to continue operations in accordance with these regulations in the absence of such approval while such application is pending and until such application is acted upon.
[Recompiled 6/4/02]

19.8.36.13 ANNUAL REPORTS:

A. Within 60 days after the end of the operator's mining year, the operator shall submit to the director two copies of a report, setting out in detail all measures taken to effect reclamation of the affected area. The report will be typewritten and signed by the operator. The report shall include the following information:

- (1) a statement of the operator's name, address and permit number;
- (2) the number of acres of affected area resulting from operations during the preceding mining year;
- (3) the number of acres for which grading was commenced during the preceding mining year and the location thereof;
- (4) the number of acres for which grading was completed during the preceding mining year and the location thereof;
- (5) the number of acres for which revegetation was commenced during the preceding mining year and the location thereof;
- (6) an enumeration of the various types of vegetation planted and the location thereof;
- (7) the number of acres for which revegetation had been completed during the preceding mining year and the location thereof;
- (8) an appraisal of the success of any revegetation efforts;
- (9) in the event of any failure of revegetation efforts, an explanation, if possible, of that failure;
- (10) an analysis of the soil in the areas to be revegetated;
- (11) a statement of the type and quantity of any organic material or soil conditioners introduced into the affected area prior to or during planting;
- (12) a statement of the extent of any efforts made to replace topsoil;
- (13) a statement of any reuse of the land which has taken place after the land has been reclaimed; and
- (14) any other information about the operator's reclamation efforts which he feels would be of assistance to the director.

B. Accompanying the report, the operator shall submit a map prepared at the same scale as the map submitted with the mining plan or a suitable overlay showing the following:

- (1) the outline of the permit area;
- (2) the outline of the affected area;
- (3) an outline of that portion of the affected area resulting from mining operations during the preceding mining year; and
- (4) the location of the operator's grading efforts during the preceding mining year to enable the director to correlate the grading data given in the annual report.

[Recompiled 6/4/02]

19.8.36.14 ANNUAL FEE: Each operator shall pay an annual fee of \$20.00 per acre of affected area resulting from his mining operations during the preceding mining year. The annual fee shall accompany the annual report.

[Recompiled 6/4/02]

19.8.36.15 PROCEEDINGS BEFORE THE DIRECTOR: In the hearings provided for in Subsection 3 J and Section 4 of this Rule 79-1 [now Subsection J of 19.8.36.10 NMAC and 19.8.36.11 NMAC] and in Laws, 1979, Chapter 291, as being adjudicatory in nature:

A. the director may designate a hearing officer to take evidence at the hearing; the hearing officer so designated will preside and will have authority to direct the hearing, to administer oaths and to make such rulings on

evidence and procedures as may be necessary.

B. the director shall maintain a verbatim record of the hearing and the record in the proceeding shall include:

- (1) all notices, pleadings, motions and intermediate rulings;
- (2) evidence received or considered;
- (3) a statement of matters officially noticed;
- (4) questions and offers of proof, objections, and rulings thereon;
- (5) proposed findings and conclusions; and
- (6) the director's decision.
- (7) the costs of a transcript, if required by the director, shall be paid by the applicant.

C. irrelevant, immaterial or unduly repetitious evidence shall be excluded; the rules of evidence applicable in an administrative adjudicatory proceeding shall be followed; the director shall give effect to the rules of privilege recognized by law; objections to evidentiary offers may be made and shall be noted in the record; subject to these requirements, when a hearing of the parties will not be prejudiced substantially, any part of the evidence may be received in written form.

D. the parties to the proceeding and the director may call and examine witnesses, introduce exhibits, cross-examine witnesses and submit rebuttal evidence.

E. official notice may be taken of all facts of which judicial notice may be taken and of other facts within the specialized knowledge of the director, but whenever the director takes official notice of a fact, the noticed fact shall be stated before or during the hearing, and a party shall, on timely request, be afforded an opportunity to show to the contrary.

F. prior to the entry of the director's decision, the parties shall be afforded a reasonable opportunity to submit proposed findings of fact and conclusions of law.

G. the director must hear the evidence or read the record; the decision shall include a statement of findings and conclusions upon all material issues of fact and of law, together with the appropriate order, sanction, relief or denial thereof; findings of fact shall be based exclusively on the evidence presented and on matters officially noticed.

H. within five days after the decision is rendered, the director shall give a copy thereof to the operator.

I. the effective date of any notice or order issued pursuant to Section 25 of the Surface Mining Act by the director may be stayed by the commission during the statutory period within which an appeal might be filed, and in the event of an appeal therefrom during the pendency of such an appeal, the commission may, in the exercise of its discretion, require a supersedeas bond in an amount sufficient to alleviate any environmental injury to the affected land.

[Recompiled 6/4/02]

19.8.36.16 REVIEW OF DIRECTOR'S DECISIONS:

A. Any person who is or may be aggrieved by the decision of the director may appeal the director's decision by filing a notice of appeal with the chairman of the commission within 30 days of the date of the director's decision. The notice of appeal shall include a short concise statement of the decision appealed from and the reason for appeal.

B. Upon receipt of the notice of appeal, the chairman of the commission shall call a meeting of the commission within 30 days of the date the notice of appeal is filed to conduct a hearing on the appeal. The appealing party shall be given notice by the commission of the time and place of the hearing at least 20 days in advance of the convening.

C. The hearing shall be held by the commission at the time and place specified in the notice to the appealing party. At the hearing, the matter involved in the director's decision from which the appeal has been taken will be heard in accordance with the procedures set forth in Section 8 [now 19.8.36.15 NMAC], except as inconsistent with Section 29 of the Surface Mining Act.

D. The commission's decision may affirm, set aside, amend reverse, or remand the director's decision for further proceedings or may compel action unlawfully withheld or unreasonably delayed.

[Recompiled 6/4/02]

19.8.36.17 SERVICE: Any notice, decision or other document required to be served by these regulations may be served either personally or by certified or registered mail, return receipt requested, directed to the operator or

other person required to be served at his last known address as shown by the director's records. Where service is by certified or registered mail, the document will be considered served on the date borne by the return receipt showing delivery to the addressee or refusal of the addressee to accept the document.

[Recompiled 6/4/02]

19.8.36.18 SPECIAL DEFINITION OF MINING YEAR: An operator's "mining year" shall be the calendar year.

[Recompiled 6/4/02]

19.8.36.19 BOND: Whenever the director contemplates that it may be necessary to insure compliance under the provisions of the Act, or any regulation or mining plan requirement, he shall give notice of intention to require bond, its condition and amount, to the operator and the operator shall be given opportunity to respond to the proposed bond. In the event the operator does not agree on the necessity, or the terms, conditions or amount of any proposed bond, the director shall provide the operator the opportunity for a hearing thereupon under the procedures of Section 8 [now 19.8.36.15 NMAC] of these regulations.

[Recompiled 6/4/02]

19.8.36.20 AMENDMENT OF PERMITS: For good cause shown, mining permits may be amended upon approval of the director. The director may, in the exercise of his discretion, order a public hearing upon reasonable notice to the permittee and the public. Such hearing shall be conducted in accordance with the provisions of Section 8 [now 19.8.36.15 NMAC] of these regulations.

[Recompiled 6/4/02]

19.8.36.21 INTERIM PERIOD PERMITS:

A. Permits issued pursuant to this Rule 79-1 [now 19.8.36 NMAC], preceding the date which occurs eight months following the date upon which the state program is approved, within the meaning of Section 503 of the Surfacemining Control and Reclamation Act of 1977, shall be deemed to be determined a permit issued pursuant to Laws 1972, Chapter 68, and regulations that relate thereto. Such permits shall be subject to the performance standards set forth in Sections 16 through 38 of this Rule 79-1 [now 19.8.36.22 NMAC through 19.8.36.44 NMAC].

B. Notwithstanding the foregoing subsection, and following the approval of a permanent state program, the director may issue permits pursuant to Section 9 of the Surface Mining Act.

[Recompiled 6/4/02]

19.8.36.22 GENERAL PERFORMANCE STANDARDS: GENERAL OBLIGATIONS (715.11):

A. Authorizations to operate. A copy of all current permits, licenses, approved plans, or other authorizations to operate the mine shall be available for inspection at or near the mine site.

B. Mine maps. Any person conducting surface coal mining and reclamation operations on and after May 3, 1978, shall submit two copies of an accurate map of the mine and permit area at a scale of 1:6000 or larger. The map shall show as of May 3, 1978, the lands from which coal has not yet been removed and the lands and structures which have been used or disturbed to facilitate mining. One copy of the mine map shall be submitted to the state regulatory authority and one copy shall be submitted to the regional director, OSM, before July 3, 1978.

[Recompiled 6/4/02]

19.8.36.23 GENERAL PERFORMANCE STANDARDS: SIGNS AND MARKERS (715.12):

A. Specifications. All signs required to be posted shall be of a standard design that can be seen and read easily and shall be made of durable material. The signs and other markers shall be maintained during all operations to which they pertain and shall conform to local ordinances and codes.

B. Mine and permit identification signs. Signs identifying the mine area shall be displayed at all points of access to the permit area from public roads and highways. Signs shall show the name, business address and telephone number of the permittee and identification numbers of current mining and reclamation permit. Such signs shall not be removed until after release of all bonds.

C. Perimeter markers. The perimeter of the permit area shall be clearly marked by durable and easily recognized markers or by other means approved by the regulatory authority.

D. Buffer zone markers. Buffer zones as defined in Section 715.17 shall be marked in a manner consistent with the perimeter markers along the interior boundary of the buffer zone.

E. Blasting signs. If blasting is necessary to conduct surface coal mining operations, signs reading "Blasting Area" shall be displayed conspicuously at the edge of blasting areas along access and haul roads within the mine property. Signs reading "Blasting Area" and explaining the blasting warning and all-clear signals shall be posted at all entrances to the permit area.

F. Topsoil markers. Where topsoil or other vegetation-supporting material is segregated and stockpiled according to Section 715.16(c), the stockpiled material shall be marked. Markers shall remain in place until the material is removed.

[Recompiled 6/4/02]

19.8.36.24 GENERAL PERFORMANCE STANDARDS: POSTMINING USE OF LAND (715.13):

A. General. All disturbed areas shall be restored in a timely manner (1) to conditions that are capable of supporting the uses which they were capable of supporting before any mining, or (2) to higher or better uses achievable under criteria and procedures of paragraph (d) of this Section [now Subsection D of 19.8.36.24 NMAC].

B. Determining premining use of land. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported if the land had not been previously mined and had been properly managed.

(1) The postmining land use for land that has been previously mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and is compatible with surrounding areas.

(2) The postmining land use for land that has received improper management shall be judged on the basis of the premining use of surrounding lands that have received proper management.

(3) If the premining use of the land was changed within five years of the beginning of mining, the comparison of postmining use to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

C. Land-use categories. Land use is categorized in the following groups. Change from one to another land use category in premining to postmining constitutes an alternate land use and the permittee shall meet the requirements of paragraph (d) [now Subsection D of 19.8.36.24 NMAC] of this Section and all other applicable environmental protection performance standards of this chapter.

(1) Heavy industry. Manufacturing facilities, powerplants, airports or similar facilities.

(2) Light industry and commercial services. Office buildings, stores, parking facilities, apartment houses, motels, hotels or similar facilities.

(3) Public services. Schools, hospitals, churches, libraries, water-treatment facilities, solid-waste disposal facilities, public parks and recreation facilities, major transmission lines, major pipelines, highways, underground and surface utilities and other servicing structures and appurtenances.

(4) Residential. Single- and multiple-family housing (other than apartment houses) with necessary support facilities. Support facilities may include commercial services incorporated in and comprising less than five percent of the total land area of housing capacity, associated open space and minor vehicle parking and recreation facilities supporting the housing.

(5) Cropland. Land used primarily for the production of cultivated and close-growing crops for harvest alone or in association with sod crops. Land used for facilities in support of farming operations are included.

(6) Rangeland. Includes rangelands and forest lands which support a cover of herbaceous or scrubby vegetation suitable for grazing or browsing use.

(7) Hayland or pasture. Land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or cut and cured for livestock feed.

(8) Forest land. Land with at least a 25 percent tree canopy or land at least ten percent stocked by forest trees of any size, including land formerly having had such tree cover and that will be naturally or artificially reforested.

(9) Impoundments of water. Land used for storing water for beneficial uses such as stock ponds, irrigation, fire protection, recreation or water supply.

(10) Fish and wildlife habitat and recreation lands. Wetlands, fish and wildlife habitat, and areas managed primarily for fish and wildlife or recreation.

(11) Combined uses. Any appropriate combination of land uses where one land use is designated as the primary land use and one or more other land uses are designated as secondary land uses.

D. Criteria for approving alternative postmining use of land. An alternative postmining land use shall be approved by the regulatory authority, after consultation with the landowner or the land-management agency having jurisdiction over state or federal lands, if the following criteria are met. Proposals to remove an entire coal

seam running through the upper part of a mountain, ridge, or hill must also meet these criteria in addition to the requirements of Section 716.3 of this chapter.

(1) The proposed land use is compatible with adjacent land use and, where applicable, with existing local, state or federal land use policies and plans. A written statement of the views of the authorities with statutory responsibilities for land use policies and plans shall accompany the request for approval. The permittee shall obtain any required approval of local, state or federal land management agencies, including any necessary zoning or other changes necessarily required for the final land use.

(2) Specific plans have been prepared which show the feasibility of the proposed land use as related to needs, projected land use trends and markets and that include a schedule showing how the proposed use will be developed and achieved within a reasonable time after mining and be sustained. The regulatory authority may require appropriate demonstrations to show that the planned procedures are feasible, reasonable and integrated with mining and reclamation, and that the plans will result in successful reclamation.

(3) Provision of any necessary public facilities is assured as evidenced by letters of commitment from parties other than the permittee, as appropriate, to provide them in a manner compatible with the permittee's plans.

(4) Specific and feasible plans for financing attainment and maintenance of the postmining land use including letters of commitment from parties other than the permittee as appropriate, if the postmining land use is to be developed by such parties.

(5) The plans are designed under the general supervision of a professional engineer registered in the state of New Mexico, or other appropriate professional, who will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, and vegetative cover, and aesthetic design appropriate for the postmining use of the site.

(6) The proposed use or uses will neither present actual or probable hazard to public health or safety nor will they pose any actual or probable threat of water flow diminution or pollution.

(7) The use or uses will not involve unreasonable delays in reclamation.

(8) Necessary approval of measures to prevent or mitigate adverse effects on fish and wildlife has been obtained from the regulatory authority and appropriate state and federal fish and wildlife management agencies.

(9) Proposals to change premining land uses of range, fish and wildlife habitat, forest land, hayland, or pasture to a postmining cropland use, where the cropland would require continuous maintenance such as seeding, plowing, cultivation, fertilization, or other similar practices to be practicable or to comply with applicable Federal, State, and local laws, shall be reviewed by the regulatory authority to assure that:

(a) There is a firm written commitment by the permittee or by the landowner or land manager to provide sufficient crop management after release of applicable performance bonds to assure that the proposed postmining cropland use remains practical and reasonable.

(b) There is sufficient water available and committed to maintain crop production; and

(c) Topsoil quality and depth are shown to be sufficient to support the proposed use.

(10) The regulatory authority has provided by public notice not less than 45 days nor more than 60 days for interested citizens and local, state and federal agencies to review and comment on the proposed land use. [Recompiled 6/4/02]

19.8.36.25 GENERAL PERFORMANCE STANDARDS: BACKFILLING AND GRADING (715.14):

In order to achieve the approximate original contour, the permittee shall, except as provided in this section, transport, backfill, compact (where advisable to ensure stability or to prevent leaching of toxic materials) and grade all spoil material to eliminate all highwalls, spoil piles and depressions. Cut-and-fill terraces may be used only in those situations expressly identified in this section. The postmining graded slopes must approximate the premining natural slopes in the area as defined in paragraph (a) [now Subsection A of 19.8.36.25 NMAC].

A. Slope measurements.

(1) To determine the natural slopes of the area before mining, sufficient slopes to adequately represent the land surface configuration, and as approved by the regulatory authority in accordance with site conditions, must be accurately measured and recorded. Each measurement shall consist of an angle of inclination along the prevailing slope extending 100 linear feet above and below or beyond the coal outcrop or the area to be disturbed; or, where this is impractical, at locations specified by the regulatory authority. Where the area has been previously mined, the measurements shall extend at least 100 feet beyond the limits of mining disturbances as determined by the regulatory authority to be representative of the premining configuration of the land. Slope measurements shall take into account natural variations in slope so as to provide accurate representation of the range of natural slopes and shall reflect geomorphic differences of the area to be disturbed. Slope measurements may be

made from topographic maps showing contour lines, having sufficient detail and accuracy consistent with the submitted mining and reclamation plan.

(2) After the disturbed area has been graded, the final graded slopes shall be measured at the beginning and end of lines established on the prevailing slope at locations representative of premining slope conditions and approved by the regulatory authority. These measurements must not be made so as to allow unacceptably steep slopes to be constructed.

B. Final graded slopes.

(1) The final graded slopes shall not exceed either the approximate premining slopes as determined according to Paragraph (a)(1) [now Paragraph 1 of Subsection A of 19.8.36.25 NMAC] and approved by the regulatory authority or any lesser slope specified by the regulatory authority based on consideration of soil, climate or other characteristics of the surrounding area. Postmining final graded slopes need not be uniform. The requirements of this paragraph may be modified by the regulatory authority where the mining is re-affecting previously mined lands that have not been restored to the standards of this section and sufficient spoil is not available to return to the slope determined according to Paragraph (a)(1) [now Paragraph 1 of Subsection A of 19.8.36.25 NMAC]. Where such modifications are approved, the permittee shall, as a minimum, be required to:

(a) retain all overburden and spoil on the solid portion of existing or new benches; and
(b) backfill and grade to the most moderate slope possible to eliminate the highwall which does not exceed the angle of repose or such lesser slopes as is necessary to assure stability.

(2) On approval by the regulatory authority and in order to conserve soil moisture, ensure stability, and control erosion on final graded slopes, cut-and-fill terraces may be allowed if the terraces are compatible with the postmining land use approved under Section 715.13, and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(a) The width of the individual terrace bench shall not exceed 20 feet unless specifically approved by the regulatory authority as necessary for stability, erosion control or roads included in the approved postmining land use plan.

(b) The vertical distance between terraces shall be as specified by regulatory authority to prevent excessive erosion and to provide long-term stability.

(c) The slope of the terrace outslope shall not exceed 1v:2h (50 percent). Outsoles which exceed 1v:2h (50 percent) may be approved if they have a minimum static safety factor of more than 1.5 and provide adequate control over erosion and closely resemble the surface configuration of the land prior to mining. In no case may highwalls be left as part of terraces.

(d) Culverts and underground rock drains shall be used on the terrace only when approved by the regulatory authority.

(3) All operations on steep slopes of 20 degrees or more or on such lesser slopes as the regulatory authority defines as a steep slope shall meet the provisions of Section 716.2 of this Chapter.

C. Mountaintop removal. The requirements of this paragraph and of Section 716.3 shall apply to surface mining operations which remove entire coal seams in the upper part of a mountain, ridge, or hill by removing all of the overburden, and where the requirements for achieving the approximate original contour of this section cannot be met. Final graded top plateau slopes on the mined area shall be less than 1v:5h so as to create a level plateau or gently rolling configuration and the outsoles of the plateau shall not exceed 1v:2h, except where engineering data substantiates and the regulatory authority finds that a minimum static safety factor of 1.5 (or higher factors specified by the regulatory authority) will be attained. Although the area need not be restored to approximate original contour, all highwalls, spoil piles and depressions except as provided in Paragraphs (d) and (e) [now Subsections D and E of 19.8.36.25 NMAC] of this section shall be eliminated. All mountaintop removal operations shall in addition meet the provisions of Section 716.3 of this Chapter.

D. Small depressions. The requirement of this section to achieve approximate original contour does not prohibit construction of small depressions if they are approved by the regulatory authority to minimize erosion, conserve soil moisture or promote revegetation. These depressions shall be compatible with the approved postmining land use and shall not be inappropriate substitutes for construction of lower grade on the reclaimed lands. Depressions approved under this section shall have a holding capacity of less than one cubic yard of water or, if it is necessary that they be larger, shall not restrict normal access throughout the area or constitute a hazard. Large, permanent impoundments shall be governed by Paragraph (e) [now Subsection E of 19.8.36.25 NMAC] of this Section and by Section 715.17.

E. Permanent impoundments. Permanent impoundments may be retained in mined and reclaimed areas provided all highwalls are eliminated by grading to appropriate contour and the provisions for postmining land

use (Section 715.13) and protection of the hydrologic balance (Section 715.17) are met. No impoundments shall be constructed on top of areas in which excess materials are deposited pursuant to Section 715.15 of this part. Impoundments shall not be used to meet the requirements of Paragraph (j) [now Subsection J of 19.8.36.25 NMAC] of this Section.

F. Definition of thin and thick restored overburden. The thin overburden provisions of Paragraph (g) [now Subsection G of 19.8.36.25 NMAC] of this section may apply only where the final thickness is less than 0.8 of the initial thickness. The thick overburden provisions of Paragraph (h) [now Subsection H of 19.8.36.25 NMAC] of this section may apply only where the final thickness is greater than 1.2 of the initial thickness. Initial thickness is the sum of the overburden thickness and coal thickness. Final thickness is the product of the overburden thickness times the bulking factor to be determined for each mine area. The provisions of Paragraph (g) and (h) [now Subsection G and H of 19.8.36.25 NMAC] apply only when operations cannot be carried out to comply with the requirements of Paragraph (a) [now Subsection A of 19.8.36.25 NMAC] of this section to achieve the approximate original contour.

G. Thin overburden. In surface coal mining operations carried out continuously in the same limited pit area for more than one year from the day coal-removal operations begin and where the volume of all available spoil and suitable waste materials is demonstrated to be insufficient to achieve approximate original contour, surface coal mining operations shall be conducted to meet, at a minimum, the following standards:

(1) Transport, backfill and grade, using all available spoil and suitable waste materials from the entire mine area, to attain the lowest practicable stable grade, which may not exceed the angle of repose, and to provide adequate drainage and long-term stability of the regraded areas.

(2) Eliminate highwalls by grading or backfilling to stable slopes not exceeding 1v:2h (50 percent), or such lesser slopes as the regulatory authority may specify to reduce erosion, maintain the hydrologic balance, or allow the approved postmining land use.

(3) Transport, backfill, grade and revegetate to achieve an ecologically sound land use compatible with the prevailing land use in unmined areas surrounding the permit area.

(4) Transport, backfill, and grade to ensure the impoundments are constructed only where it has been demonstrated to the regulatory authority's satisfaction that all requirements of Section 715.17 have been met and that the impoundments have been approved by the regulatory authority as meeting the requirements of this Part and all other applicable federal and state regulations.

H. Thick overburden. In surface coal mining operations where the volume of spoil is demonstrated to be more than sufficient to achieve the approximate original contour surface coal mining operations shall be conducted to meet at a minimum the following standards:

(1) Transport, backfill and grade all spoil and wastes not required to achieve approximate original contour in the surface mining area to the lowest practicable grade.

(2) Deposit, backfill and grade excess spoil and wastes only within the permit area and dispose of such materials in conformance with this part.

(3) Transport, backfill and grade excess spoil and wastes to maintain the hydrologic balance in accordance with this part and to provide long-term stability.

(4) Transport, backfill, grade and revegetate wastes and excess spoil to achieve an ecologically sound land use compatible with the prevailing land uses in unmined areas surrounding the permit area.

(5) Eliminate all highwalls and depressions except as stated in Paragraph (e) [now Subsection E of 19.8.36.25 NMAC] of this Section by backfilling with spoil and suitable waste materials.

I. Regrading or stabilizing rills and gullies. When rills or gullies deeper than nine inches form in areas that have been regraded and the topsoil replaced but vegetation has not yet been established the permittee shall fill, grade, or otherwise stabilize the rills and gullies and reseed or replant the areas according to Section 715.20. The regulatory authority shall specify that rills or gullies of lesser size be stabilized if the rills or gullies will be disruptive to the approved postmining land use or may result in additional erosion and sedimentation.

J. Covering coal and acid-forming, toxic-forming, combustible and other waste materials; stabilizing backfilled materials; and using waste material for fill.

(1) Cover all exposed coal seams remaining after mining and any acid-forming, toxic-forming, combustible materials, or any other waste materials identified by the regulatory authority that are exposed, used or produced during mining shall be covered with a minimum of four feet of nontoxic and noncombustible material; or, if necessary, treated to neutralize toxicity in order to prevent water pollution and sustained combustion, and to minimize adverse effects on plant growth and land uses. Where necessary to protect against upward migration of salts, exposure by erosion, to provide an adequate depth for plant growth or to otherwise meet local conditions, the regulatory authority shall specify thicker amounts of cover using nontoxic material. Acid-forming or toxic-forming

material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution or otherwise violate the provisions of Section 715.17 of this Part.

(2) Stabilization. Backfilled materials shall be selectively placed and compacted wherever necessary to prevent leaching of toxic-forming materials into surface or subsurface waters in accordance with Section 715.17 and wherever necessary to ensure the stability of the backfilled materials. The method of compacting material and the design specifications shall be approved by the regulatory authority before the toxic materials are covered.

(3) Use of waste materials as fill. Before waste materials from a coal preparation or conversion facility or from other activities conducted outside the permit area such as municipal wastes are used for fill material, it must be demonstrated to the regulatory authority by hydrogeological means and chemical and physical analyses that use of these materials will not adversely affect water quality, water flow and vegetation; will not present hazards to public health and safety; and will not cause instability in the backfilled area.

K. Grading along the contour. All final grading, preparation of overburden before replacement of topsoil and placement of topsoil, in accordance with Section 715.16 shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation or placement along the contour would be hazardous to equipment operators then grading, preparation or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

[Recompiled 6/4/02]

19.8.36.26 GENERAL PERFORMANCE STANDARDS: DISPOSAL OF SPOIL AND WASTE MATERIALS IN AREAS OTHER THAN THE MINE WORKINGS OR EXCAVATIONS (715.15):

A. Disposal of spoil in other than valley or head-of-hollow fills. Spoil not required to achieve the approximate original contour shall be transported to and placed in a controlled (engineered) manner in disposal areas other than the mine workings or excavations only if all the following conditions, in addition to the other requirements of this part, are met:

(1) The disposal areas shall be within the permit area, and they must be approved by the regulatory authority as suitable for construction of fills in accordance with the requirements of this paragraph.

(2) The disposal areas shall be located on the most moderate sloping and naturally stable areas available as approved by the regulatory authority. Where possible, fill materials suitable for disposal shall be placed upon or above a natural terrace, bench or berm if such placement provides additional stability and prevents mass movement.

(3) The fill shall be designed using recognized professional standards, certified by a professional engineer, registered in the state of New Mexico and approved by the regulatory authority.

(4) Where the slope in the disposal area exceeds 1v:2.8h (36 percent), or such lesser slope designated by the regulatory authority based on local conditions, measures such as keyway cuts (excavations to stable bedrock) or rock toe buttresses shall be constructed to stabilize the fill.

(5) The disposal area does not contain springs, natural water courses, or wet weather seeps unless lateral drains are constructed from the wet areas to the underdrains in such a manner that infiltration of the water into the spoil pile will be prevented.

(6) All organic material shall be removed from the disposal area and the topsoil must be removed and segregated pursuant to Section 715.16 before the material is placed in the disposal area. However, if approved by the regulatory authority, organic material may be used as mulch or may be included in the topsoil.

(7) The spoil shall be transported and placed in a controlled manner, concurrently compacted as necessary to ensure mass stability and prevent mass movement, covered, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings, and to ensure long-term stability. The final configuration of the fill must be suitable for postmining land uses approved in accordance with Section 715.13. Terraces shall not be constructed unless approved by the regulatory authority.

(8) If any portion of the fill interrupts, obstructs or encroaches upon any natural drainage channel, the entire fill is classified as a valley or head-of-hollow fill and must be designed and constructed in accordance with the requirements of Paragraph (b) [now Subsection B of 19.8.36.26 NMAC] of this Section.

(9) The fill shall be inspected for stability by a registered engineer or other qualified professional specialist during critical construction periods to assure removal of all organic material and topsoil, placement of under-drainage systems, and proper construction of terraces according to the approved plan. The registered engineer or other qualified professional specialist shall provide a certified report after each inspection that the fill has been constructed as specified in the design approved by the regulatory authority.

B. Disposal of spoil in valley or head-of-hollow fills. Waste material must not be disposed of in valley or head-of-hollow fills. Spoil to be disposed of in natural valleys must be placed in accordance with the following requirements:

(1) The disposal areas shall be within the permit area, and they must be approved by the regulatory authority as suitable for construction of fills in accordance with the requirements of Paragraph (b) [now Subsection B of 19.8.36.26 NMAC].

(2) The disposal site shall be near the ridge top of a valley selected to increase the stability of the fill and to reduce the drainage area above the fill. Where possible, spoil shall be placed above a natural terrace, bench or berm, if such placement provides additional stability and prevents mass movement.

(3) The fill shall be designed using recognized professional standards, certified by a professional engineer registered in the State of New Mexico and approved by the regulatory authority.

(4) All organic material shall be removed from the disposal area and the topsoil must be removed and segregated pursuant to Section 715.16 of this Part before the material is placed in the disposal area. However, if approved by the regulatory authority, organic material may be used as mulch or may be included in the topsoil.

(5) Where the slope in the disposal area exceeds 1v:2.8h (36 percent), or such lesser slope designated by the regulatory authority based on local conditions, measures such as keyway cuts (excavations to stable bedrock) or rock toe buttresses shall be constructed to stabilize the fill.

(6) A system of underdrains constructed of durable rock shall be installed along the natural drainage system, shall extend from the toe to the head of the fill and contain lateral drains to each area of potential drainage or seepage. In constructing the underdrains, no more than ten percent of the rock may be less than 12 inches in size and no single rock may be larger than 25 percent of the width of the drain. No rock shall be used in underdrains if it tends to easily disintegrate and thereby clog the drain or if it is acid-forming or toxic-forming. The minimum size of the main underdrain shall be:

Total amount of Fill material	Predominant type of fill Material	Minimum size of drain in feet	
		Width	Height
Less than 1 million yd ³ . Do-----	Sandstone--	10	4
	Shale-----	16	8
More than 1 million yd ³ . Do-----	Sandstone-----	16	8
	Shale-----	16	8

(7) Spoil shall be transported and placed in a controlled manner and concurrently compacted as specified by the regulatory authority in lifts that are less than four feet thick in order to achieve the densities designed to ensure mass stability, to prevent mass movement, to avoid contamination of the rock underdrain and to prevent formation of voids. The final configuration of the fill must be suitable for postmining land uses approved in accordance with Section 715.13.

(8) Terraces shall be constructed to stabilize the face of the fill. The outslope of each terrace shall not exceed 50 feet in length and the width of the terrace shall not be less than 20 feet.

(9) The tops of the fill and each terrace shall be graded no steeper than 1v:20h (five percent) and shall be constructed to drain surface water to the sides of the fill where stabilized surface channels shall be established off the fill to carry drainage away from the fill. Drainage shall not be directed over the outslope of the fill unless approved by the regulatory authority.

(10) All surface drainage from the undisturbed area above the fill shall be diverted away from the fill by approved structures leading into water courses.

(11) The outslope of the fill shall not exceed 1v:2h (50 percent). The regulatory authority may require a flatter slope.

(12) The fill shall be inspected for stability by a professional engineer registered in the State of New Mexico or other qualified professional specialist during critical construction periods and at least quarterly throughout construction to assure removal of all organic material and topsoil, placement of underdrainage systems and proper construction of terraces according to the approved plan. The registered engineer or other qualified professional specialist shall provide a certified report after each inspection that the fill has been constructed as specified in the design approved by the regulatory authority.
[Recompiled 6/4/02]

19.8.36.27 GENERAL PERFORMANCE STANDARDS: TOPSOIL HANDLING (715.16): To prevent topsoil from being contaminated by spoil or waste materials, the permittee shall remove the topsoil as a separate operation from areas to be disturbed. Topsoil shall be immediately redistributed according to the requirements of Paragraph (b) [now Subsection B of 19.8.36.27 NMAC] of this section on areas graded to the approved postmining configuration. The topsoil shall be segregated, stockpiled and protected from wind and water erosion and from contaminants which lessen its capability to support vegetation if sufficient graded areas are not immediately available for redistribution.

A. Topsoil removal. All topsoil to be salvaged shall be removed before any drilling for blasting, mining or other surface disturbance.

(1) All topsoil shall be removed unless use of alternative materials is approved by the regulatory authority in accordance with Subparagraph (4) [now Paragraph 4 of Subsection A of 19.8.36.27 NMAC]. Where the removal of topsoil results in erosion that may cause air or water pollution, the regulatory authority shall limit the size of the area from which topsoil may be removed at any one time and specify methods of treatment to control erosion of exposed overburden.

(2) All of the A horizon of the topsoil as identified by soil surveys shall be removed according to Paragraph (a) [now Subsection A of 19.8.36.27 NMAC] and then replaced on disturbed areas as the surface soil layers. Where the A horizon is less than six inches, a six-inch layer that includes the A horizon and the unconsolidated material immediately below the A horizon (or all unconsolidated material if the total available is less than six inches) shall be removed and the mixture segregated and replaced as the surface soil layer.

(3) Where necessary to obtain soil productivity consistent with postmining land use, the regulatory authority may require that the B horizon or portions of the C horizon or other underlying layers demonstrated to have comparable quality for root development be segregated and replaced as subsoil.

(4) Selected overburden materials may be used instead of, or as a supplement to, topsoil where the resulting soil medium is equal to or more suitable for vegetation, and if all the following requirements are met:

(a) The permittee demonstrates that the selected overburden materials or an overburden-topsoil mixture is more suitable for restoring land capability and productivity by the results of chemical and physical analyses. These analyses shall include determinations of pH, percent organic material, nitrogen, phosphorus, potassium, texture class and water-holding capacity, and such other analyses as required by the regulatory authority. The regulatory authority also may require that results of field-site trials or greenhouse tests be used to demonstrate the feasibility of using such overburden materials.

(b) The chemical and physical analyses and the results of field-site trials and greenhouse tests are accompanied by a certification from a qualified soil scientist or agronomist.

(c) The alternative material is removed, segregated and replaced in conformance with this Section.

B. Topsoil Redistribution.

(1) Regraded land shall be scarified or otherwise treated to eliminate slippage surfaces and to promote root penetration.

(2) Topsoil shall be redistributed in a manner that:

(a) achieves an approximate uniform thickness consistent with the postmining land uses;

(b) prevents excess compaction of the spoil and topsoil; and

(c) protects the topsoil from wind and water erosion before it is seeded and planted.

C. Topsoil storage. If the permit allows storage of topsoil, the stockpiled topsoil shall be placed on a stable area within the permit area where it will not be disturbed or be exposed to excessive water, wind erosion or contaminants which lessen its capability to support vegetation before it can be redistributed on terrain graded to final contour. Stockpiles shall be selectively placed and protected from wind and water erosion, unnecessary compaction, and contamination by undesirable materials either by a vegetative cover as defined in Section 715.20(g) or by other methods demonstrated to provide equal protection such as snow fences, chemical binders and mulching. Unless

approved by the regulatory authority, stockpiled topsoil shall not be moved until required for redistribution on a disturbed area.

D. Nutrients and soil amendments. Nutrients and soil amendments in the amounts and analyses as determined by soil tests shall be applied to the surface soil layer so that it will support the postmining requirements of Section 715.13 and the revegetation requirements of Section 715.20.
[Recompiled 6/4/02]

19.8.36.28 GENERAL PERFORMANCE STANDARDS: PROTECTION OF THE HYDROLOGIC SYSTEM (715.17): The permittee shall plan and conduct coal mining and reclamation operations to minimize disturbance to the prevailing hydrologic balance in order to prevent long-term adverse changes in the hydrologic balance that could result from surface coal mining and reclamation operations, both on-and off-site. Changes in water quality and quantity, in the depth to groundwater, and in the location of surface water drainage channels shall be minimized such that the postmining land use of the disturbed land is not adversely affected and applicable federal and state statutes and regulations are not violated. The permittee shall conduct operations so as to minimize water pollution and shall, where necessary, use treatment methods to control water pollution. The permittee shall emphasize surface coal mining and reclamation practices that will prevent or minimize water pollution and changes in flows in preference to the use of water treatment facilities. Practices to control and minimize pollution include, but are not limited to, stabilizing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, lining drainage channels with rock or vegetation, mulching, sealing acid-forming and toxic-forming materials, and selectively placing waste materials in backfill areas. If pollution can be controlled only by treatment, the permittee shall operate and maintain the necessary water-treatment facilities for as long as treatment is required.
[Recompiled 6/4/02]

19.8.36.29 GENERAL PERFORMANCE STANDARDS: WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS (715.17)(a): ¹The standards in this section will be enjoined to the extent that they supersede, amend, repeal or modify the provisions of the Federal Water Pollution Control Act and its regulations.

A. All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, shall be passed through a sedimentation pond or a series of sedimentation ponds before leaving the permit area. Sedimentation ponds shall be retained until drainage from the disturbed area has met the water quality requirements of this section and the revegetation requirements of Section 715.20 have been met. The regulatory authority may grant exemptions from this requirement only when the disturbed drainage area within the total disturbed area is small and if the permittee shows that sedimentation ponds are not necessary to meet the effluent limitations of this paragraph and to maintain water quality in downstream receiving waters. For purpose of this section only, disturbed area shall not include those areas in which only diversion ditches, sedimentation ponds, or roads are installed in accordance with this section and the upstream area is not otherwise disturbed by the permittee. Sedimentation ponds required by this paragraph shall be constructed in accordance with Paragraph (e) [now Subsection E of 19.8.36.29 NMAC] of this section in appropriate locations prior to any mining in the affected drainage area in order to control sedimentation or otherwise treat water in accordance with this paragraph. Discharges from areas disturbed by surface coal mining and reclamation operations must meet all applicable Federal and State laws and regulations and, at a minimum, the following numerical effluent limitations:

EFFLUENT LIMITATIONS IN MILLIGRAMS PER LITER
mg/l, Except For pH

Effluent Characteristics	Maximum allowable ¹	Average of Daily values for 30 consecutive discharge days ¹
Iron, total-----	7.0	3.5

Manganese, total-----	4.0		2.0
Total suspended solids	70.0	35.0	
pH ²	Within the----- range 6.0 to 9.0.		

¹Based on representative sampling.

²Where the applications of neutralization and sedimentation treatment technology results in inability to comply with the manganese limitations set forth, the regulatory authority may allow the pH level in the discharge to exceed to a small extent the upper limit of 9.0 in order that the manganese limitations will be achieved.

(1) Any overflow or other discharge of surface water from the disturbed area within the permit area demonstrated by the permittee to result from a precipitation event larger than a ten-year 24-hour frequency event will not be subject to the effluent limitations of Paragraph (a) [now Subsection A of 19.8.36.29 NMAC].

(2) The permittee shall install, operate, and maintain adequate facilities to treat any water discharged from the disturbed area that violates applicable federal or state laws or regulations or the limitations of Paragraph (a) [now Subsection A of 19.8.36.29 NMAC]. If the pH of waters to be discharged from the disturbed area is normally less than 6.0, an automatic lime feeder or other neutralization process approved by the regulatory authority shall be installed, operated and maintained. If the regulatory authority finds (1) that small and infrequent treatment requirements to meet applicable standards do not necessitate use of an automatic neutralization process, and (2) that the mine normally produces less than 500 tons of coal per day, then the regulatory authority may approve the use of a manual system if the permittee ensures consistent and timely treatment.

B. Surface-water monitoring.

(1) The permittee shall submit for approval by the regulatory authority a surface-water monitoring program which meets the following requirements:

- (a) Provides adequate monitoring of all discharge from the disturbed area.
- (b) Provides adequate data to describe the likely daily and seasonal variation in discharges from the disturbed area in terms of water flow, pH, total iron, total manganese and total suspended solids and, if requested by the regulatory authority, any other parameter characteristic of the discharge.
- (c) Provides monitoring at appropriate frequencies to measure normal and abnormal variations in concentrations.
- (d) Provides an analytical quality control system including standard methods of analysis such as those specified in 40 CFR 136.
- (e) Provides a regular report of all measurements to the regulatory authority within 60 days of sample collection unless violations of permit conditions occur in which case the regulatory authority shall be notified immediately after receipt of analytical results by the permittee. If the discharge is subject to regulation by a federal or state permit issued in compliance with the Federal Water Pollution Control Act Amendment of 1972 (33 U.S.C. ? 1251-1-378), a copy of the completed reporting form supplied to meet the permit requirements may be submitted to the regulatory authority to satisfy the reporting requirements if the data meet the sampling frequency and other requirements of this paragraph.

(2) After disturbed areas have been regraded and stabilized in accordance with this Part, the permittee shall monitor surface water flow and quality. Data from this monitoring shall be used to demonstrate that the quality and quantity of runoff without treatment will be consistent with the requirement of this section to minimize disturbance to the prevailing hydrologic balance and with the requirements of this part to attain the approved postmining land use. These data shall provide a basis for approval by the regulatory authority for removal of water quality or flow control systems and for determining when the requirements of this Section are met. The regulatory authority shall determine the nature of data, frequency of collection and reporting requirements.

(3) Equipment, structures and other measures necessary to accurately measure and sample the quality and quantity of surface water discharges from the disturbed area of the permit area shall be properly installed, maintained and operated and shall be removed when no longer required.

C. Diversion and conveyance of overland flow away from disturbed areas. In order to minimize erosion and to prevent or remove water from contacting toxic-producing deposits, overland flow from undisturbed areas may, if required or approved by the regulatory authority, be diverted away from disturbed areas by means of temporary or permanent diversion structures. The following requirements shall be met:

- (1) Temporary diversion structures shall be constructed to safely pass the peak runoff from a

precipitation event with a one year recurrence interval, or a larger event as specified by the regulatory authority. The design criteria must assure adequate protection of the environment and public during the existence of the temporary diversion structure.

(2) Permanent diversion structures are those remaining after mining and reclamation and approved for retention by the regulatory authority and other appropriate state and federal agencies. To protect fills and property and to avoid danger to public health and safety, permanent diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a 100-year recurrence interval, or a larger event as specified by the regulatory authority. Permanent diversion structures shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete or other similar linings shall not be used unless specifically required to prevent seepage or to provide stability and are approved by the regulatory authority.

(3) Diversions shall be designed, constructed and maintained in a manner to prevent additional contributions of suspended solids to streamflow or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall such contributions be in excess of requirements set by applicable state or federal law. Appropriate sediment control measures for these diversions shall include, but not be limited to, maintenances of appropriate gradients, channel lining, revegetation, roughness structures and detention basins.

D. Stream channel diversions.

(1) Flow from perennial and intermittent streams within the permit area may be diverted only when the diversions are approved by the regulatory authority and they are in compliance with local, state, and federal statutes and regulations. When streamflow is allowed to be diverted, the new stream channel shall be designed and constructed to meet the following requirements:

(a) The average stream gradient shall be maintained and the channel designed, constructed, and maintained to remain stable and to prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall such contributions be in excess of requirements set by applicable state or federal law. Erosion control structures such as channel lining structures, retention basins and artificial channel roughness structures shall be used only when approved by regulatory agency for temporary diversions where necessary or for permanent diversions where they are stable and will require only infrequent maintenance.

(b) Channel, bank and flood-plain configurations shall be adequate to safely pass the peak runoff of a precipitation event with a ten-year recurrence interval for temporary diversions and a 100-year recurrence interval for permanent diversions, or larger events as specified by the regulatory authority.

(c) Fish and wildlife habitat and water and vegetation of significant value for wildlife shall be protected in consultation with appropriate state and federal fish and wildlife management agencies.

(2) All temporary diversion structures shall be removed and the affected land regraded and revegetated consistent with the requirements of Section 715.14 and Section 715.20. At the time such diversions are removed, the permittee shall ensure that downstream water treatment facilities previously protected by the diversion are modified or removed to prevent overtopping or failure of the facilities.

(3) Buffer zone. No land within 100 feet of an intermittent or perennial stream shall be disturbed by surface coal mining and reclamation operations unless the regulatory authority specifically authorizes surface coal mining and reclamation operations through such a stream. The area not to be disturbed shall be designated a buffer zone and marked as specified in Section 715.12.

E. ²Sediment control measures. Appropriate sediment control measures shall be designed, constructed, and maintained to prevent additional contributions of sediment to streamflow or to runoff outside the permit area to the extent possible, using the best technology currently available. ²The standards in Section 715.17(e) will be preliminarily enjoined.

(1) Sediment control measures include practices carried out within and adjacent to the disturbed area. The scale of downstream practices shall reflect the degree to which successful techniques are applied at the sources of the sediment. Sediment control measures consist of the utilization of proper mining, reclamation methods, and sediment control practices (singly or in combination) including but not limited to:

(a) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading and timely revegetation.

(b) Consistent with the requirements of Section 715.14 and Section 715.15 shaping the backfill material to promote a reduction of the rate and volume of runoff.

(c) Retention of sediment within the pit and disturbed area.

(d) Diversion of overland and channelized flow from undisturbed areas around or in protected

crossings through the disturbed area.

(e) Utilization of straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds and other measures that reduce overland flow velocity, reduce runoff volume or entrap sediment.

(f) Sedimentation ponds.

(2) Sedimentation ponds, may be used individually or in series, should be located as near as possible to the disturbed area and where possible out of major stream courses, and shall (either individually or in series) meet the following criteria:

(a) Sedimentation ponds must provide 24-hour theoretical detention time for the inflow or runoff entering the ponds from a ten-year, 24-hour precipitation event. Runoff diverted, in accordance with Paragraphs (c) and (d) [now Subsections C and D of 19.8.36.29 NMAC] of this Section, away from the disturbed drainage areas need not be considered in sedimentation pond design. In determining the runoff volume the characteristics of the mine site, reclamation procedures and on-site sediment control practices shall be considered.

(b) Upon approval of the regulatory authority theoretical detention time may be reduced to not less than ten hours, as demonstrated by the permittee, equal to the improvement in sedimentation removal efficiency as a result of pond design including but not limited to pond configuration, inflow-outflow facilities and their relative location, baffles to decrease inflow velocity and short circuiting, a surface area sufficient to achieve the sediment trap efficiency necessary to meet effluent limitations (Sec. 715.17 (a)) and sediment control measures provided in Section 715.17 (e)(1).

(c) The regulatory authority may approve a detention time less than the time required by Paragraph (e)(2) (i) or (ii) [now Subparagraphs a and b of Paragraph 2 of Subsection E of 19.8.36.29 NMAC] of this section, when the permittee has demonstrated that the size distribution or the specific gravity of the suspended matter or the utilization of chemical treatment or flocculation are such that the effluent limitations can be met. The detention time shall be stipulated.

(3) An additional sediment storage volume must be provided equal to 0.2 acre-feet for each acre of disturbed area within the upstream drainage area. Upon approval of the regulatory authority, the sediment storage volume may be reduced in an amount, as demonstrated by the permittee, equal to the sediment removed by other appropriate sediment control measures such as those identified in Paragraph (e)(1) [now Paragraph 1 of Subsection E of 19.8.36.29 NMAC] of this section, or by lesser sediment yields as evidenced by empirical data for runoff characteristics.

(4) Ponds may be of the permanent pool or self-dewatering type. Dewatering-type ponds shall use siphon or other dewatering methods approved by the regulatory authority to prevent discharges of pollutants within the design flow.

(5) Spillway systems shall be properly located to maximize the distances from the point of inflow into the pond to maximize detention times. Spillway systems shall be provided to safely discharge the peak runoff from a precipitation event with a 25-year recurrence interval, or larger event as specified by the regulatory authority.

(6) Sediment shall be removed from sedimentation ponds so as to assure maximum sediment removal efficiency and attainment and maintenance of effluent limitations. Sediment removal shall be done in a manner that minimizes adverse effects on surface waters due to its chemical and physical characteristics, on infiltration, on vegetation, and on surface and groundwater quality. Sediment that has been removed from sedimentation ponds and that meets the requirements for topsoil may be redistributed over graded areas in accordance with Section 715.16.

(7) If a sedimentation pond has an embankment that is more than 20 feet in height, as measured from the downstream toe of the embankment to the top of the embankment, or has a storage volume of 20 acre-feet or more, the following additional requirements shall be met:

(a) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff resulting from a 100-year six-hour precipitation event, or larger event as specified by the regulatory authority.

(b) Ponds shall be designed and constructed with an acceptable static safety factor of at least 1.5 of maximum design flood elevation of the pool to ensure embankment slope stability.

(c) The minimum top width of the embankment shall not be less than the quotient of $H+35/5$ where H is the height of the embankment as measured from the downstream toe to the top of the embankment.

(d) Ponds shall have appropriate barriers to control seepage along conduits that extend through the embankment.

(8) All ponds shall be designed and inspected under the supervision of, and certified after construction by a professional engineer registered in the state of New Mexico.

(9) All ponds, including those not meeting the size or other criteria of Section 77.216(a) of this title,

shall be examined for structural weakness, erosion, and other hazardous conditions in accordance with the inspection requirements contained in Section 77.216-3 of this title.

(10) All ponds shall be removed and the affected land regraded and revegetated consistent with the requirements of Section 715.14 and Section 715.20, unless the regulatory authority approves retention of the ponds pursuant to Paragraph (k) [now Subsection K of 19.8.36.29 NMAC] of this Section.

F. Discharge structures. Discharges from sedimentation ponds and diversions shall be controlled, where necessary, using energy dissipators, surge ponds and other devices to reduce erosion and prevent deepening or enlargement of stream channels and to minimize disturbances to the hydrologic balance.

G. Acid and toxic materials. Drainage from acid-forming and toxic-forming mine waste materials and soils into ground and surface water shall be avoided by:

(1) Identifying, burying and treating where necessary, spoil or other materials that, in the judgment of the regulatory authority, will be toxic to vegetation or that will adversely affect water quality if not treated or buried. Such material shall be disposed of in accordance with the provision of Section 715.14(j).

(2) Preventing or removing water from contact with toxic-producing deposits.

(3) Burying or otherwise treating all toxic or harmful materials within 30 days, if such materials are subject to wind and water erosion, or within a lesser period designated by the regulatory authority. If storage of such materials is approved, the materials shall be placed on impermeable material and protected from erosion and contact with surface water. Coal waste ponds and other coal waste materials shall be maintained according to Section 715.17(g) (4), and Section 715.18 shall apply.

(4) Burying or otherwise treating waste materials from coal preparation plants no later than 90 days after the cessation of the filling of the disposal area. Burial or treatment shall be in accordance with Section 715.14(j).

(5) Casing, sealing or otherwise managing boreholes, shafts, wells and auger holes or other more or less horizontal holes to prevent pollution of surface or groundwater and to prevent mixing of groundwaters of significantly different quality. All boreholes that are within the permit area but are outside the surface coal mining area or which extend beneath the coal to be mined and into water bearing strata shall be plugged permanently in a manner approved by the regulatory authority, unless the boreholes have been approved for use in monitoring.

(6) Taking such other actions as required by the regulatory authority.

H. Groundwater.

(1) Recharge capacity of reclaimed lands. The disturbed area shall be reclaimed to restore approximate premining recharge capacity through restoration of the capability of the reclaimed areas as a whole to transmit water to the groundwater system. The recharge capacity should be restored to support the approved postmining land use and to minimize disturbances to the prevailing hydrologic balance at the mined area and in associated offsite areas. The permittee shall be responsible for monitoring according to Paragraph (h) (3) [now Paragraph 3 of Subsection H of 19.8.36.29 NMAC] of this section to ensure operations conform to this requirement.

(2) Groundwater systems. Backfilled materials shall be placed to minimize adverse effects on groundwater flow and quality, to minimize offsite effects, and to support the approved postmining land use. The permittee shall be responsible for performing monitoring according to Paragraph (h)(3) [now Paragraph 3 of Subsection H of 19.8.36.29 NMAC] of this section to ensure operations conform to this requirement.

(3) Monitoring. Groundwater levels, infiltration rates, subsurface flow and storage characteristics, and the quality of groundwater shall be monitored in a manner approved by the regulatory authority to determine the effects of surface coal mining and reclamation operations on the recharge capacity of reclaimed lands and on the quantity and quality of water in groundwater systems at the mine area and in associated off-site areas. When operations are conducted in such a manner that may affect the groundwater system, groundwater levels and groundwater quality shall be periodically monitored using wells that can adequately reflect changes in groundwater quantity and quality resulting from such operations. Sufficient water wells must be used by the permittee. The regulatory authority may require drilling and development of additional wells if needed to adequately monitor the groundwater system. As specified and approved by the regulatory authority, additional hydrologic tests, such as infiltration tests and aquifer tests, must be undertaken by the permittee to demonstrate compliance with Subparagraphs (1) and (2) [now Paragraphs 1 and 2 of Subsection H of 19.8.36.29 NMAC] of this paragraph.

I. Water rights and replacement. The permittee shall replace the water supply of an owner of interest in real property who obtains all or part of his supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source where such supply has been affected by contamination, diminution or interruption proximately resulting from surface coal mine operation by the permittee.

J. Alluvial valley floors west of the 100th meridian west longitude.

(1) Surface coal mining operations conducted in or adjacent to alluvial valley floors shall be planned and conducted so as to preserve the essential hydrologic functions of these alluvial valley floors throughout the mining and reclamation process. These functions shall be preserved by maintaining or reestablishing those hydrologic and biologic characteristics of the alluvial valley floor that are necessary to support the functions. The permittee shall provide information to the regulatory authority as required in Paragraph (j)(3) [now Paragraph 3 of Subsection J of 19.8.36.29 NMAC] of this section to allow identification of essential hydrologic functions and demonstrate that the functions will be preserved. The characteristics of an alluvial valley floor to be considered include, but are not limited to:

(a) The longitudinal profile (gradient), cross-sectional shape and other channel characteristics of streams that have formed within the alluvial valley floor and that provide for maintenance of the prevailing conditions of surface flow;

(b) Aquifers (including capillary zones and perched water zones) and confining beds within the mined area which provide for storage, transmission and regulation of natural groundwater and surface water that supply the alluvial valley floors;

(c) Quantity and quality of surface and groundwater that supply alluvial valley floors;

(d) Depth to and seasonal fluctuations of groundwater beneath alluvial valley floors;

(e) Configuration and stability of the land surface in the flood plain and adjacent low terraces in alluvial valley floors as they allow or facilitate irrigation with flood waters or subirrigation and maintain erosional equilibrium; and

(f) Moisture-holding capacity of soils (or plant growth medium) within the alluvial valley floors, and physical and chemical characteristics of the subsoil which provide for sustained vegetation growth or cover through dry months.

(2) Surface coal mining operations located west of the 100th meridian west longitude shall not interrupt, discontinue or preclude farming on alluvial valley floors and shall not materially damage the quantity or quality of surface or groundwater that supplies these valley floors unless the premining land use has been undeveloped rangeland which is not significant to farming on the alluvial valley floors or unless the area of affected alluvial valley floor is small and provides negligible support for the production from one or more farms. This Subparagraph (2) [now Paragraph 2 of Subsection J of 19.8.36.29 NMAC] does not apply to those surface coal mining operations that:

(a) Were in production in the year preceding August 3, 1977, were located in or adjacent to an alluvial valley floor, and produced coal in commercial quantities during the year preceding August 3, 1977; or

(b) Had specific permit approval by the state regulatory authority before August 3, 1977, to conduct surface coal mining operations for an area within an alluvial valley floor.

(3)

(a) Before surface mining and reclamation operations authorized under Paragraph (j)(2) [now Paragraph 2 of Subsection J of 19.8.36.29 NMAC] of this section may be issued a new, revised or amended permit, the permittee shall submit, for regulatory authority approval, detailed surveys and baseline data to establish standards against which the requirements of Paragraph (j)(1) [now Paragraph 1 of Subsection J of 19.8.36.29 NMAC] of this section may be measured and from which the degree of material damage to the quantity and quality of surface and groundwater that supply the alluvial valley floors may be assessed. The surveys and data shall include--

(i) A map, at a scale determined by the regulatory authority, showing the location and configuration of the alluvial valley floor;

(ii) Baseline data covering a full water year for each of the hydrologic functions identified in Paragraph (j)(1) [now Paragraph 1 of Subsection J of 19.8.36.29 NMAC] of this section;

(iii) Plans showing how the operation will avoid, during mining and reclamation, interruption, discontinuance or preclusion of farming on the alluvial valley floors and will not materially damage the quantity or quality of water in surface and groundwater systems that supply such valley floors;

(iv) Historic land use data for the proposed permit area and for farms to be affected; and

(v) Such other data as the regulatory authority may require.

(b) Surface mining operations which qualify for the exceptions in Paragraph (j)(2) [now Paragraph 2 of Subsection J of 19.8.36.29 NMAC] of this section are not required to submit the plans prescribed in (i)(C) [now Sub-subparagraph (iii) of Subparagraph a of Paragraph 3 of Subsection J of 19.8.36.29 NMAC] of this subparagraph.

(4) The holder of a federal coal lease or the fee holder of any coal deposit located within or adjacent to an alluvial valley floor west of the 100th meridian west from which coal was not produced in commercial

quantities between August 3, 1976, and August 3, 1977, and for which no specific permit by the appropriate state or federal regulatory authority to conduct surface coal mining operations in the alluvial valley floors has been obtained, may be entitled to an exchange of the federal coal lease for a lease of other federal coal deposits under section 510(b)(5) of the Act or to the conveyance by the secretary of fee title to other available federal coal deposits in exchange for the fee title to such deposits under Section 206 of the Federal Land Policy and Management Act of 1976 (90 Stat. 2743), if the secretary determines that substantial financial and legal commitments were made by the operator prior to January 1, 1977, in connection with surface coal mining operations on such lands.

(5) The secretary may, if he determines that the person is qualified for an exchange of federal coal leases under the provisions of section 510(b)(5) of the Act or a conveyance of other federal coal deposits under section 206 of the Federal Land Policy and Management Act, take appropriate steps to complete the exchange of lands. The secretary may require the person to submit additional information and a formal application for exchange.

K. Permanent impoundments. The permittee may construct, if authorized by the regulatory agency pursuant to this paragraph and Section 715.13, permanent water impoundments on mining sites as a part of reclamation activities only when they are adequately demonstrated to be in compliance with Section 715.13 and Section 715.14 in addition to the following requirements:

(1) The size of the impoundment is adequate for its intended purposes.

(2) The impoundment dam construction is designed to achieve necessary stability with an adequate margin of safety compatible with that of structures constructed under Pub. L. 83-566 (16 U.S.C.1006).

(3) The quality of the impounded water will be suitable on a permanent basis for its intended use and discharges from the impoundment will not degrade the quality of receiving waters below the water quality standards established pursuant to applicable federal and state law.

(4) The level of water will be reasonably stable.

(5) Final grading will comply with the provisions of Section 715.14 and will provide adequate safety and access for proposed water users.

(6) Water impoundments will not result in the diminution of the quality or quantity of water used by adjacent or surrounding landowners for agricultural, industrial, recreational or domestic uses.

L. Hydrologic impact of roads.

(1) General. Access and haul roads and associated bridges, culverts, ditches and road rights-of-way shall be constructed, maintained and reclaimed to prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall the contributions be in excess of requirements set by applicable state or federal law. All access and haul roads shall be removed and the land affected regraded and revegetated consistent with the requirements of Section 715.14 and Section 715.20, unless retention of a road is approved as part of a postmining land use under Section 715.13 as being necessary to support the postmining land use or necessary to adequately control erosion and the necessary maintenance is assured.

(2) Construction.

(a) All roads, insofar as possible, shall be located on ridges or on the available flatter and more stable slopes to minimize erosion. Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes across dry streams that will not adversely affect sedimentation and that will not be used for coal haulage. Other stream crossing shall be made using bridges, culverts or other structures designed and constructed to meet the requirements of this paragraph. Roads shall not be located in active stream channels nor shall they be constructed or maintained in a manner that increases erosion or causes significant sedimentation or flooding. However, nothing in this paragraph will be construed to prohibit relocation of stream channels in accordance with Paragraph (d) [now Subsection D of 19.8.36.29 NMAC] of this section.

(b) In order to minimize erosion and subsequent disturbances of the hydrologic balance, roads shall be constructed in compliance with the following grade restrictions or other grades determined by the regulatory authority to be necessary to control erosion.

(i) The overall sustained grade shall not exceed 1v:10h (ten percent).

(ii) The maximum grade greater than ten percent shall not exceed 1v:6.5h (15 percent) for more than 300 feet.

(iii) There shall not be more than 300 feet of grade exceeding ten percent within each 1,000 feet.

(c) All access and haul roads shall be adequately drained using structures such as, but not limited to, ditches, water barriers, cross drains, and ditch relief drains. For access and haul roads that are to be maintained for more than one year, water-control structures shall be designed with a discharge capacity capable of

passing the peak runoff from a ten-year, 24-hour precipitation event. Drainage pipes and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets. Drainage ditches shall be provided at the toe of all cut slopes formed by construction of roads. Trash racks and debris basins shall be installed in the drainage ditches wherever debris from the drainage area could impair the functions of drainage and sediment control structures. Ditch relief and cross drains shall be spaced according to grade. Effluent limitations of Paragraph (a) [now Subsection A of 19.8.36.29 NMAC] of this Section shall not apply to drainage from access and haul roads located outside the disturbed area as defined in this Section unless otherwise specified by the regulatory authority.

(d) Access and haul roads shall be surfaced with durable material. Toxic- or acid-forming substances shall not be used. Vegetation may be cleared only for the essential width necessary for road and associated ditch construction and to serve traffic needs.

(3) Maintenance.

(a) Access and haul roads shall be routinely maintained by means such as, but not limited to, wetting, scraping or surfacing.

(b) Ditches, culverts, drains, trash racks, debris basins and other structures serving to drain access and haul roads shall not be restricted or blocked in any manner that impedes drainage or adversely affects the intended purpose of the structure.

M. Hydrologic impacts of other transport facilities. Railroad loops, spurs, sidings and other transport facilities shall be constructed, maintained and reclaimed to control diminution or degradation of water quality and quantity and to prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall contributions be in excess of requirements set by applicable State or Federal law.

N. Discharge of waters into underground mines. Surface and groundwaters shall not be discharged or diverted into underground mine workings.

[Recompiled 6/4/02]

19.8.36.30 GENERAL PERFORMANCE STANDARDS: DAMS CONSTRUCTED OF WASTE MATERIAL (715.18):

A. General. No waste material shall be used in existing or new dams without the approval of the regulatory authority. The permittee shall design, locate, construct, operate, maintain, modify and abandon or remove all dams (used either temporarily or permanently) constructed of waste materials, in accordance with the requirements of this Section.

B. Construction of dams:

(1) Waste shall not be used in the construction of dams unless demonstrated through appropriate engineering analysis, to have no adverse effect on stability.

(2) Plans for dams subject to this Section, and also including those dams that do not meet the size or other criteria of Section 77.216 (a) of this Title, shall be approved by the regulatory authority before construction and shall contain the minimum plan requirements established by the mining enforcement and safety administration pursuant to Section 77.216-2 of this title.

(3) Construction requirements are as follows:

(a) Design shall be based on the flood from the probable maximum precipitation event unless the permittee shows that the failure of the impounding structure would not cause loss of life or severely damage property or the environment, in which case, depending on site conditions, a design based on a precipitation event of no less than 100-year frequency may be approved by the regulatory authority.

(b) The design freeboard distance between the lowest point on the embankment crest and the maximum water elevation shall be at least three feet to avoid overtopping by wind and wave action.

(c) Dams shall have minimum safety factors as follows:

Case	Loading Condition	Minimum Safety Factor
I-----	End of construction-----	1.3
II-----	Partial pool with steady seepage saturation	1.5
III-----	Steady seepage from spillway or decant crest.	1.5
IV-----	Earthquake (cases II and III with seismic loading).	1.0

(d) The dam, foundation and abutments shall be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the factors of safety of the dam for all loading conditions in Paragraph (b)(3)(iii) [now Subparagraph c Paragraph 3 of Subsection B of 19.8.36.30 NMAC] of this Section and for all increments of construction.

(e) Seepage through the dam, foundation and abutments shall be controlled to prevent excessive uplift pressures, internal erosion, sloughing, removal of material by solution or erosion of material by loss into cracks, joints and cavities. This may require the use of impervious blankets, previous drainage zones or blankets, toe drains, relief wells or dental concreting of jointed rock surface in contact with embankment materials.

(f) Allowances shall be made for settlement of the dams and the foundation so that the freeboard will be maintained.

(g) Impoundments created by dams of waste materials shall be subject to a minimum drawdown criteria that allows the facility to be evacuated by spillways or decants of 90 percent of the volume of water stored during the design precipitation event within ten days.

(h) During construction of dams subject to this section, the structures shall be periodically inspected by a professional engineer registered in the state of New Mexico to ensure construction according to the approved design. On completion of construction, the structure shall be certified by a professional engineer registered in the state of New Mexico experienced in the field of dam construction as having been constructed in accordance with accepted professional practice and the approved design.

(i) A permanent identification marker, at least six feet high that shows the dam number assigned pursuant to Section 77-216-1 of this title and the name of the person operating or controlling the dam, shall be located on or immediately adjacent to each dam within 30 days of certification of design pursuant to this section.

(4) All dams, including those not meeting the size or other criteria of Section 77.216 (a) of this title, shall be routinely inspected by a professional engineer registered in the state of New Mexico, or someone under the supervision of a registered professional engineer, in accordance with mining enforcement and safety administration regulations pursuant to Section 77.216-3 of this title.

(5) All dams shall be routinely maintained. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible materials present on the surface, other than that used for surface stability such as mulch or dry vegetation, shall be removed and any other appropriate maintenance procedures followed.

(6) All dams subject to this Section shall be certified annually as having been constructed and modified in accordance with current prudent engineering practices to minimize the possibility of failures. Any changes in the geometry of the impounding structure shall be highlighted and included in the annual certification report. These certifications shall include a report on existing and required monitoring procedures and instrumentation, the average and maximum depths and elevations of any impounded waters over the past year, existing storage capacity of impounding structures, any fires occurring in the material over the past year and any other aspects of the structures affecting their stability.

(7) Any enlargements, reductions in size, reconstruction or other modification of the dams shall be approved by the regulatory authority before construction begins.

(8) All dams shall be removed and the disturbed areas regraded, revegetated and stabilized before the release of bond unless the regulatory authority approves retention of such dams as being compatible with an approved postmining land use (Section 715.13).

[Recompiled 6/4/02]

19.8.36.31 GENERAL PERFORMANCE STANDARDS: USE OF EXPLOSIVES (715.19):

A. General.

(1) The permittee shall comply with all applicable local, state and federal laws and regulations and the requirements of this section in the storage, handling, preparation and use of explosives.

(2) Blasting operations that use more than the equivalent of 5 pounds of TNT shall be conducted according to a time schedule approved by the regulatory authority.

(3) All blasting operations shall be conducted by experienced, trained and competent persons who understand the hazards involved. Persons working with explosive materials shall:

(a) Have demonstrated a knowledge of, and a willingness to comply with safety and security requirements;

(b) Be capable of using mature judgement in all situations;

(c) Be in good physical condition and not addicted to intoxicants, narcotics or other similar types of drugs;

(d) Possess current knowledge of the local, state and federal laws and regulations applicable to his work; and

(e) Have obtained a certificate of completion of training and qualification as required by state law or the regulatory authority.

B. Preblasting survey.

(1) On the request to the regulatory authority of a resident or owner of a manmade dwelling or structure that is located within one-half mile of any part of the permit area, the permittee shall conduct a preblasting survey of the dwelling or structure and submit a report of the survey to the regulatory authority.

(2) Personnel approved by the regulatory authority shall conduct the survey to determine the condition of the dwelling or structure and to document any preblasting damage and other physical factors that could reasonably be affected by the blasting. Assessments of structures such as pipes, cables, transmission lines and wells and other water systems shall be limited to surface condition and other readily available data. Special attention shall be given to the preblasting condition of wells and other water systems used for human, animal or agricultural purposes and to the quantity and quality of the water.

(3) A written report of the survey shall be prepared and signed by the person or persons who conducted the survey and prepared the written report. The report shall include recommendations of any special conditions or proposed adjustments to the blasting procedures outlined in Paragraph (e) [now Subsection E of 19.8.36.31 NMAC] of this Section which should be incorporated into the the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the regulatory authority.

C. Public notice of blasting schedule. At least 10 days, but not more than 20 days before beginning a blasting program in which explosives that use more than the equivalent of 5 pounds of TNT are detonated, the permittee shall publish a blasting schedule in a newspaper of general circulation in the locality of the proposed site. Copies of the schedule shall be distributed by mail to local governments and public utilities and to each residence within one-half mile of the blasting sites described in the schedule. The permittee shall republish and redistribute the schedule by mail at least every 3 months. Blasting schedules shall not be so general as to cover all working hours but shall identify as accurately as possible the location of the blasting site and the time periods when blasting will occur. The blasting schedule shall contain at a minimum:

(1) Identification of the specific areas in which blasting will take place. The specific blasting areas described shall not be larger than 300 acres with a generally contiguous border;

(2) Dates and times when explosives are to be detonated expressed in not more than 4-hour increments;

(3) Methods to be used to control access to the blasting area;

(4) Types of audible warnings and all-clear signals to be used before and after blasting; and

(5) A description of possible emergency situations (defined in Paragraph (e)(1)(ii) of this Section) [now Subparagraph b of Paragraph 1 of Subsection E of 19.8.36.31 NMAC], which have been approved by the regulatory authority, when it may be necessary to blast at times other than those described in the schedule.

D. Public notice of changes to blasting schedules. Before blasting in areas not covered by a previous schedule or whenever the proposed frequency of individual detonations are materially changed, the permittee shall prepare a revised blasting schedule in accordance with the procedures in Paragraph (c) [now Subsection C of 19.8.36.31 NMAC] of this Section. If the change involves only a temporary adjustment of the frequency of blasts, the permittee may use alternate methods to notify the governmental bodies and individuals to whom the original schedule was sent.

E. Blasting procedures.

(1) General.

(a) All blasting shall be conducted only during the daytime hours, defined as sunrise until sunset. Based on public requests or other considerations, including the proximity to residential areas, the regulatory authority may specify more restrictive time periods.

(b) Blasting may not be conducted at times different from those announced in the blasting schedule except in emergency situations where rain, lightning, other atmospheric conditions or operator or public safety requires unscheduled detonation.

(c) Warning and all-clear signals of different character that are audible within a range of one-half mile from the point of the blast shall be given. All persons within the permit area shall be notified of the meaning of the signals through appropriate instructions and signs posted as required by Section 715.12.

(d) Access to the blasting area shall be regulated to protect the public and livestock from the effects of blasting. Access to the blasting area shall be controlled to prevent unauthorized entry at least 10 minutes before each blast and until the permittee's authorized representative has determined that no unusual circumstances such as imminent slides or undetonated charges exist and access to and travel in or through the area can safely resume.

(e) Areas in which charged holes are awaiting firing shall be guarded, barricaded and posted, or flagged against unauthorized entry.

(f) Airblast shall be controlled such that it does not exceed 128 decibel linear-peak at any manmade dwelling or structure located within one-half mile of the permit area.

(g) Except where lesser distances are approved by the regulatory authority (based upon a preblasting survey or other appropriate investigations) blasting shall not be conducted within:

(i) 1,000 feet of any building used as a dwelling, school, church, hospital or nursing facility;

(ii) 500 feet of facilities including, but not limited to, disposal wells, petroleum or gas-storage facilities, municipal water-storage facilities, fluid-transmission pipelines, gas or oil collection lines or water and sewage lines; and

(iii) 500 feet of an underground mine not totally abandoned except with the concurrence of the mining enforcement and safety administration.

(2) Blasting standards.

(a) Blasting shall be conducted to prevent injury to persons, damage to public or private property, outside the permit area, adverse impacts on any underground mine and change in the course, channel or availability of ground or surface waters outside the permit area.

(b) In all blasting operations, except as otherwise stated, the maximum peak particle velocity of the ground motion in any direction shall not exceed 1 inch per second at the immediate location of any dwelling, public building, school, church or commercial or institutional building. The regulatory authority may reduce the maximum peak particle velocity allowed if it determines that a lower standard is required because of density of population or land use, age or type of structure, geology or hydrology of the area, frequency of blasts or other factors.

(c) The maximum peak particle velocity of ground motion does not apply to property inside the permit area that is owned or leased by the permittee.

(d) An equation for determining the maximum weight of explosives that can be detonated within any 8 millisecond period is given in Paragraph (v) [now Subparagraph e of Paragraph 2 of Subsection E of 19.8.36.31 NMAC]. If the blasting is conducted in accordance with this equation, the regulatory authority will consider the vibrations to be within the 1 inch per second limit.

(e) The maximum weight of explosives to be detonated within any 8 millisecond period shall be determined by the formula

$$W = (D/60)^2$$

where W=the maximum weight of explosives, in pounds, that can be detonated in any 8 millisecond period, and D=the distance, in feet, to the nearest dwelling, school, church or commercial or institutional building.

For distances between 350 and 5,000 feet, solution of the equation results in the following maximum weight:

Distance, in feet (D):	Maximum weight, in pounds (W):
350-----	34
400-----	44
500-----	69
600-----	100
700-----	136
800-----	178
900-----	225
1,000-----	278
1,100-----	336

1,200-----	400
1,300-----	469
1,400-----	544
1,500-----	625
1,600-----	711
1,700-----	803
1,800-----	900
1,900-----	1,002
2,000-----	1,111
2,500-----	1,736
3,000-----	2,500
3,500-----	3,402
4,000-----	4,444
4,500-----	5,625
5,000-----	6,944

(f) If on a particular site the peak particle velocity continuously exceeds one-half inch per second after a period of 1 second following the maximum ground particle velocity, the regulatory authority shall require the blasting procedures to be revised to limit the ground motion.

(3) Seismograph measurements.

(a) where a seismograph is used to monitor the velocity of ground motion and the peak particle velocity limit of 1 inch per second is not exceeded, the equation in Paragraph (v) [now Subparagraph e of Paragraph 2 of Subsection E of 19.8.36.31 NMAC] need not be used. However, if the equation is not being used, a seismograph record shall be obtained for every shot.

(b) The use of a modified equation to determine maximum weight of explosives for blasting operations at a particular site may be approved by the regulatory authority on receipt of a petition accompanied by reports including seismograph records of test blasting on the site. However, in no case shall the regulatory authority approve the use of a modified equation where the peak particle velocity limit of 1 inch per second required in Paragraph (e)(2)(ii) [now Subparagraph b of Paragraph 2 of Subsection E of 19.8.36.31 NMAC] of this Section would be exceeded.

(c) The regulatory authority may require a seismograph recording of any or all blasts.

(4) Records of blasting operations. A record of each blast, including seismograph reports, shall be retained for at least 3 years and shall be available for inspection by the regulatory authority and the public on request. The record shall contain the following data:

- (a) Name of permittee, operator or other person conducting the blast;
- (b) Location, date and time of blast;
- (c) Name, signature and license number of blaster-in charge;
- (d) Direction and distance, in feet, to nearest dwelling, school, church or commercial or institutional building neither owned or leased by the permittee;
- (e) Weather conditions;
- (f) Type of material blasted;
- (g) Number of holes, burden and spacing;
- (h) Diameter and depth of holes;
- (i) Types of explosives used;
- (j) Total weight of explosives used;
- (k) Maximum weight of explosives detonated within any 8 millisecond period;
- (l) Maximum number of holes detonated within any 8 millisecond period;
- (m) Methods of firing and type of circuit;
- (n) Type and length of stemming;
- (o) If mats or other protections were used;
- (p) Type of delay detonator used and delay periods used;
- (q) Seismograph records, where required, including:
 - (i) Seismograph reading, including exact location of seismograph and its distance from the blast;
 - (ii) Name of person taking the seismograph reading; and

(iii) Name of person and firm analyzing the seismograph record.

[Recompiled 6/4/02]

19.8.36.32 GENERAL PERFORMANCE STANDARDS: REVEGETATION (715.20):

A. General.

(1) The permittee shall establish on all land that has been disturbed, a diverse, effective and permanent vegetative cover of species native to the area of disturbed land or species that will support the planned postmining uses of the land approved according to Section 715.13. For areas designated as prime farmland, the reclamation procedures of Section 716.7 shall apply.

(2) Revegetation shall be carried out in a manner that encourages a prompt vegetative cover and recovery of productivity levels compatible with approved land uses. The vegetative cover shall be capable of stabilizing the soil surface with respect to erosion. All disturbed lands, except water areas and surface areas of roads that are approved as a part of the postmining land use, shall be seeded or planted to achieve a vegetative cover of the same seasonal variety native to the area of disturbed land. If both the pre-and postmining land use is intensive agriculture, planting of the crops normally grown will meet the requirement. Vegetative cover will be considered of the same seasonal variety when it consists of a mixture of species of equal or superior utility for the intended land use when compared with the utility of naturally occurring vegetation during each season of the year.

(3) On federal lands, the surface management agency shall be consulted for approval prior to revegetation regarding what species are selected, and following revegetation, to determine when the area is ready to be used.

B. Use of introduced species. Introduced species may be substituted for native species only if appropriate field trials have demonstrated that the introduced species are of equal or superior utility for the approved postmining land use, or are necessary to achieve a quick, temporary and stabilizing cover. Such species substitution shall be approved by the regulatory authority. Introduced species shall meet applicable state and federal seed or introduced species statutes, and shall not include poisonous or potentially toxic species.

C. Timing of revegetation. Seeding and planting of disturbed areas shall be conducted during the first normal period for favorable planting conditions after final preparation. The normal period for favorable planting shall be that planting time generally accepted locally for the type of plant materials selected to meet specific site conditions and climate. Any disturbed areas, except water areas and surface areas of roads that are approved under Section 715.13 as part of the postmining land use, which have been graded shall be seeded with a temporary cover of small grains, grasses or legumes to control erosion until an adequate permanent cover is established. When rills or gullies, that would preclude the successful establishment of vegetation or the achievement of the postmining land use, form in regraded topsoil and overburden materials as specified in Section 715.14, additional regrading or other stabilization practices will be required before seeding and planting.

D. Mulching. Mulch shall be used on all regraded and topsoiled areas to control erosion, to promote germination of seeds and to increase the moisture retention of the soil. Mulch shall be anchored to the soil surface where appropriate, to ensure effective protection of the soil and vegetation. Mulch means vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing micro-climatic conditions suitable for germination and growth, and do not interfere with the postmining use of the land. Annual grains such as oats, rye and wheat may be used instead of mulch when it is shown to the satisfaction of the regulatory authority that the substituted grains will provide adequate stability and that they will later be replaced by species approved for the postmining use. Where supplemental irrigation is required by the regulatory authority during the initial plant establishment period, if the operator can prove to the satisfaction of the regulatory authority that permanent revegetation equal to or better than that which would result from the use of mulch will result, the requirement for mulch may be eliminated if approved by the regulatory authority.

E. Methods of revegetation.

(1) The permittee shall use technical publications or the results of laboratory and field tests approved by the regulatory authority to determine the varieties, species, seeding rates and soil amendment practices essential for establishment and self-regeneration of vegetation. The regulatory authority shall approve species selection and planting plans.

(2) Where hayland, pasture or range is to be the postmining land use, the species of grasses, legumes, browse, trees or forbes for seeding or planting and their pattern of distribution shall be selected by the permittee to provide a diverse, effective and permanent vegetative cover with the seasonal variety, succession, distribution and regenerative capabilities native to the area. Livestock grazing will not be allowed on reclaimed land until the seedlings are established and can sustain managed grazing. The regulatory authority in consultation with the

permittee and the landowner or in concurrence with the governmental land-managing agency having jurisdiction over the surface, shall determine when the revegetated area is ready for livestock grazing.

(3) Where forest is to be the postmining land use, the permittee shall plant trees adapted for local site conditions and climate. Trees shall be planted in combination with an herbaceous cover of grains, grasses, legumes, forbs or woody plants to provide a diverse, effective and permanent vegetation cover with the seasonal variety, succession and regeneration capabilities native to the area.

(4) Where wildlife habitat is to be included in the postmining land use, the permittee shall consult with appropriate State and Federal wildlife and land management agencies and shall select those species that will fulfill the needs of wildlife, including food, water, cover and space. Plant groupings and water resources shall be spaced and distributed to fulfill the requirements of wildlife.

F. Standards for measuring success of revegetation.

(1) Success of revegetation shall be measured on the basis of reference areas approved by the regulatory authority. Reference areas mean land units of varying size and shape identified and maintained under appropriate management for the purpose of measuring ground cover, productivity and species diversity that are produced naturally. The reference areas must be representative of geology, soils slope, aspect and vegetation in the permit area. Management of the reference area shall be comparable to that which will be required for the approved postmining land use of the area to be mined. The regulatory authority shall approve the estimating techniques that will be used to determine the degree of success in the revegetated area.

(2) The ground cover of living plants on the revegetated area shall be equal to the ground cover of living plants of the approved reference area for a minimum of two growing seasons. The ground cover shall not be considered equal if it is less than 90 percent of the ground cover of the reference area for any significant portion of the mined area. Exceptions may be authorized by the regulatory authority for:

(a) Previously mined areas that were not reclaimed to the standards required by this chapter prior to the effective date of these regulations. The ground cover of living plants for such areas shall not be less than required to control erosion, and in no case less than that existing before redisturbance;

(b) Areas to be developed immediately for industrial or residential use. The ground cover of living plants shall not be less than required to control erosion. As used in this paragraph, immediately means less than 2 years after regrading has been completed for the area to be used; and

(c) Areas to be used for agricultural cropland purposes. Success in revegetation of cropland shall be determined on the basis of crop production from the mined area compared to the reference area. Crop production from the mined area shall be equal to that of the approved reference area for a minimum of two growing seasons. Production shall not be considered equal if it is less than 90 percent of the production of the reference area for any significant portion of the mined area.

(3) Species diversity, distribution, seasonal variety, and vigor shall be evaluated on the basis of the results which could reasonably be expected using the methods of revegetation approved under Paragraph (e) [now Subsection E of 19.8.36.32 NMAC] of this Section.

G. Seeding of stockpiled topsoil. Topsoil stockpiled in compliance with Section 715.16 must be seeded or planted with an effective cover of nonnoxious, quick growing annual and perennial plants during the first normal period for favorable planting conditions or protected by other approved measures as specified in Section 715.16.

[Recompiled 6/4/02]

19.8.36.33 SPECIAL PERFORMANCE STANDARDS: GENERAL OBLIGATIONS (716.1): All surface coal mining and reclamation operations subject to this part shall comply with the applicable special performance standards in this part. Such operations shall also comply with all general performance standards in Part 715 of this chapter unless specifically exempted in this part from the requirements of Part 715.

[Recompiled 6/4/02]

19.8.36.34 SPECIAL PERFORMANCE STANDARDS: STEEP-SLOPE MINING (716.2): The permittee conducting surface coal mining and reclamation operations on natural slopes that exceed 20 degrees, or on lesser slopes that require measures to protect the area from disturbance, as determined by the regulatory authority after consideration of soils, climate, the method of operation, geology and other regional characteristics, shall meet the following performance standards. The standards of this section do not apply where mining is done on a flat or gently rolling terrain with an occasional steep slope through which the mining proceeds and leaves a plain or predominantly flat area; or where the mining is governed by Section 716.3.

- A. Spoil, waste materials or debris, including that from clearing and grubbing, and abandoned or disabled equipment, shall not be placed or allowed to remain on the downslope.
 - B. The highwall shall be completely covered with spoil and the disturbed area graded to comply with the provisions of Section 715.14 of this chapter. Land above the highwall shall not be disturbed unless the regulatory authority finds that the disturbance will facilitate compliance with the requirements of this Section.
 - C. Material in excess of that required to meet the provisions Section 715.14 of this chapter shall be disposed of in accordance with the requirements of Section 715.15 of this chapter.
 - D. Woody materials may be buried in the backfilled area only when burial does not cause, or add to, instability of the backfill. Woody materials may be chipped and distributed through the backfill when approved by the regulatory authority.
- [Recompiled 6/4/02]

19.8.36.35 SPECIAL PERFORMANCE STANDARDS: MOUNTAINTOP REMOVAL (716.3):

A. Surface coal mining and reclamation operations that remove entire coal seams running through the upper fraction of a mountain, ridge or hill by removing all of the overburden and creating a level plateau or gently rolling contour with no highwalls remaining are exempt from the requirements of Section 715.14 of this chapter for achieving approximate original contour, if the following requirements are met:

- (1) An industrial, commercial, agricultural, residential or public facility (including recreational facilities) use is proposed for the affected land.
- (2) The alternative land use criteria in Section 715.13(d) of this chapter are met and the proposal is approved by the regulatory authority.
- (3) All other applicable requirements of Part 715 of this chapter can be met.

B. Surface coal mining and reclamation operations conducted under this Section shall comply with the following standards:

- (1) An outcrop barrier of sufficient width, consisting of the toe of the lowest coal seam, and its associated overburden shall be retained to prevent slides and erosion.
- (2) The final graded top plateau slopes on the mined area shall be less than 1v: 5h so as to create a level plateau or gently rolling configuration and the outslopes of the plateau shall not exceed 1v:2h, except where engineering data substantiates and the regulatory authority finds that a minimum static safety factor of 1.5 will be attained.
- (3) The resulting level or gently rolling contour shall be graded to drain inward from the outslope except at specific points where it drains over the outslope in protected stable channels.
- (4) Damage to natural watercourses below the area to be mined shall be prevented.
- (5) Spoil shall be placed on the mountaintop bench as is necessary to achieve the postmining land use approved under Section 715.13 of this chapter. All excess spoil material not retained on the mountaintop shall be placed in accordance with the standards of Section 715.15 of this chapter.

C.

(1) All permits giving approval for mountaintop removal shall be reviewed not more than 3 years from the date of issuance of the permit, unless the permittee affirmatively demonstrates and the regulatory authority finds that all operations are proceeding in accordance with the terms of the permit and applicable requirements of the Act and the regulations of this Part. The terms of the permit shall be in accordance with the requirements of the Act and the regulations of this Part.

(2) The terms of a permit for mountaintop removal may be modified by the regulatory authority if it determines that more stringent measures are necessary to prevent or control slides and erosion, prevent damage to natural water courses, avoid water pollution or to assure successful revegetation.

[Recompiled 6/4/02]

19.8.36.36 SPECIAL PERFORMANCE STANDARDS: PRIME FARMLANDS (716.7):³

³ - Enforcement of these provisions promulgated pursuant to Sections 510(d) and 515(b)(7) of the federal act will be enjoined to the extent they impose performance standards on operations that are exempt from these requirements pursuant to Section 510(d)(2).

A. Applicability.

(1) Permittees of surface coal mining and reclamation operations conducted on prime farmland shall comply with the general performance standards of Part 715 of this chapter in addition to the special requirements of this Section. Prime farmlands are those lands defined in Paragraph (b) [now Subsection B of 19.8.36.36 NMAC] of

this Section that have been used for the production of cultivated crops, including nurseries, orchards and other speciality crops, and small grains for at least 5 years out of the 20 years preceding the date of the permit application.

(2) The requirements of this Section are applicable to any permit issued on or after August 3, 1977. Permits issued before that date and revisions or renewals of those permits need not conform to the provisions of this Section regarding actions to be taken before a permit is issued. Permit renewals or revisions shall include only those areas that:

(a) Were in the original permit area or in a mining plan approved prior to August 3, 1977; or
(b) Are contiguous and under State regulation or practice would have normally been considered as a renewal or revision of a previously approved plan.

B. Definition. Prime farmland means those lands that meet the applicability requirements in Paragraph (a) [now Subsection A of 19.8.36.36 NMAC] of this section and the specific technical criteria prescribed by the secretary of agriculture as published in the FEDERAL REGISTER on August 23, 1977. These criteria are included here for convenience. Terms used in this section are defined in U.S. department of agriculture publications: Soil Taxonomy, Agriculture Handbook 436: Soil Survey Manual. Agriculture Handbook 18; Rainfall-Erosion Losses From Cropland, Agriculture Handbook 282; and Saline and Alkali Soils, Agriculture Handbook 60. To be considered prime farmland soils must meet all of the following criteria:

(1) The soils have:
(a) Aquic, udic, ustic or xeric moisture regimes and sufficient available water capacity within a depth of 40 inches or in the root zone, if the root zone is less than 40 inches deep, to produce the commonly grown crops in 7 or more years out of 10; or
(b) Xeric or ustic moisture regimes in which the available water capacity is limited but the area has a developed irrigation water supply that is dependable and of adequate quality (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown); or
(c) Aridic or torric moisture regimes and the area has a developed irrigation water supply that is dependable and of adequate quality.

(2) The soils have a temperature regime that is frigid, mesic, thermic or hyperthermic (pergelic and cryic regimes are excluded). These are soils that at a depth of 20 inches have a mean annual temperature higher than 32 degrees F. In addition, the mean summer temperature at this depth in soils with an 0 horizon is higher than 47 degrees F in soils that have no 0 horizon the mean summer temperature is higher than 59 degrees F.

(3) The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches or in the root zone if the root zone is less than 40 inches deep.

(4) The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow food, feed, fiber, forage and oilseed crops common to the area to be grown.

(5) The soils can be managed so that, in all horizons within a depth of 40 inches or in the root zone if the root zone is less than 40 inches deep during part of each year the conductivity of saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage (ESP) is less than 15.

(6) The soils are not flooded frequently during the growing season (less often than once in 2 years).

(7) The soils have a product of K (erodibility factor) x percent slope of less than 2.0 and a product of I (soil erodibility) x C (climatic factor) not exceeding 60.

(8) The soils have a permeability rate of at least 0.06 inch per hour in the upper 20 inches and the mean annual soil temperature at a depth of 20 inches is less than 59 degrees F.; the permeability rate is not a limiting factor if the mean annual soil temperature is 59 degrees F. or higher.

(9) Less than 10 percent of the surface layer (upper 6 inches) in these soils consists of rock fragments coarser than 3 inches.

C. Identification of prime farmland. Prime farmland shall be identified on the basis of soil survey submitted by the applicant. The regulatory authority also may require data on irrigation drainage, flood control, and subsurface water management. The requirement for submission of soil surveys may be waived by the regulatory authority if the applicant can demonstrate according to the procedures in Paragraph (d) [now Subsection D of 19.8.36.36 NMAC] of this Section that no prime farmlands are involved. Soil surveys shall be conducted according to standards of the National Cooperative Soil Survey which include the procedures set forth in U.S. department of agriculture Handbooks 436 (Soil Taxonomy) and 18 (Soil Survey Manual), and shall include:

(1) Data on moisture availability, temperature regime, flooding, water table, erosion characteristics, permeability, or other information that is needed to determine prime farmland in accordance with Paragraph (b) [now Subsection B of 19.8.36.36 NMAC] of this Section;

(2) A map designating the exact location and extent of the prime farmland; and

(3) A description of each soil mapping unit.

D. Negative determination of prime farmland. The land shall not be considered as prime farmland where the applicant can demonstrate one or more of the following situations:

(1) Lands within the proposed permit boundaries have been used for the production of cultivated crops for less than 5 years out of 20 years preceding the date of the permit application.

(2) The slope of all land within the permit area is 10 percent or greater.

(3) Land within the permit area is not irrigated or naturally subirrigated, has no developed water supply that is dependable and of adequate quality and the average annual precipitation is 14 inches or less.

(4) Other factors exist, such as a very rocky surface, or the land is frequently flooded, which clearly place all land within the area outside the purview of prime farmland.

(5) A written notification based on scientific findings and soil surveys that land within the proposed mining area does not meet the applicability requirements in Paragraph (a) [now Subsection A of 19.8.36.36 NMAC] of this Section is submitted to the regulatory authority by a qualified person other than the applicant, and is approved by the regulatory authority.

E. Plan for restoration of prime farmland. The applicant shall submit to the regulatory authority a plan for the mining and restoration of any prime farmland within the proposed permit boundaries. This plan shall be used by the regulatory authority in judging the technological capability of the applicant to restore prime farmlands. The plan shall include:

(1) A description of the original undisturbed soil profile, as determined from a soil survey, showing the depth and thickness of each of the soil horizons that collectively constitute the root zone of the locally adapted crops and are to be removed, stored and replaced;

(2) The proposed method and type of equipment to be used for removal, storage, and replacement of the soil in accordance with Paragraph (g) [now Subsection G of 19.8.36.36 NMAC] of this section;

(3) The location of areas to be used for the separate stockpiling of the soil and plans for soil stabilization before redistribution;

(4) If applicable, documentation such as agricultural school studies or other scientific data from comparable areas that supports the use of other suitable material, instead of the A, B or C soil horizon, to obtain on the restored area equivalent or higher levels of yield as non-mined prime farmlands in the surrounding area under equivalent levels of management; and

(5) Plans for seeding or cropping the final graded mine land and the conservation practices to control erosion and sedimentation during the first 12 months after regrading is completed. Proper adjustments for seasons must be made so that final graded land is not exposed to erosion during seasons when vegetation or conservation practices cannot be established due to weather conditions; and

(6) Available agricultural school studies, company data or other scientific data for comparable areas that demonstrate that the applicant using his proposed method of reclamation will achieve, within a reasonable time, equivalent or higher levels of yield after mining as existed before mining.

F. Consultation with secretary of agriculture and issuance of permit.

(1) The regulatory authority may grant a permit which shall incorporate the plan submitted under Paragraph (e) [now Subsection E of 19.8.36.36 NMAC] of this section, if it finds in writing that the applicant:

(a) has the technological capability to restore the prime farmland within the proposed permit area, within a reasonable time, to equivalent or higher levels of yield as non-mined prime farmland in the surrounding area under equivalent levels of management; and

(b) Will achieve compliance with the standards of Paragraph (g) [now Subsection G of 19.8.36.36 NMAC] of this Section.

(2) Before any permit is issued for areas that include prime farmlands, the regulatory authority shall consult with the secretary of agriculture. The secretary of agriculture will provide a review of the proposed method of soil reconstruction and comment on possible revisions that will result in a more complete and adequate restoration. The secretary of agriculture has assigned his responsibilities under this paragraph to the administrator of the U.S. soil conservation service and the U.S. soil conservation service will carry out the consultation and review through their state conservationist, located in each state.

G. Special requirements. For all prime farmlands to be mined and reclaimed the applicant shall meet the following special requirements:

(1) All soil horizons to be used in the reconstruction of the soil shall be removed before drilling, blasting or mining to prevent contaminating the soil horizons with undesirable materials. Where removal of soil horizons result in erosion that may cause air and water pollution, the regulatory authority shall specify methods of

treatment to control erosion of exposed overburden. The permittee shall:

(a) Remove separately the entire A horizon or other suitable soil materials which will create a final soil having an equal or greater productive capacity than that which existed prior to mining in a manner that prevents mixing or contamination with other material before replacement;

(b) Remove separately the B horizon of the natural soil or a combination of B horizon and underlying C horizon or other suitable soil material that will create a reconstructed root zone of equal or greater productivity capacity than that which existed prior to mining in a manner that prevents mixing or contamination with other material; and

(c) Remove separately the underlying C horizons or other strata, or a combination of such horizons or other strata, to be used instead of the B horizon that are of equal or greater thickness and that can be shown to be equal or more favorable for plant growth than the B horizon, and that when replaced will create in the reconstructed soil a final root zone of comparable depth and quality to that which existed in the natural soil.

(2) If stockpiling of soil horizons is allowed by the regulatory authority in lieu of immediate replacement, the A horizon and B horizon must be stored separately from each other. The stockpiles must be placed within the permit area and where they will not be disturbed or exposed to excessive erosion by water or wind before the stockpiled horizons can be redistributed on terrain graded to final contour. Stockpiles in place for more than 30 days must meet the requirements of Section 715.16(c).

(3) Scarify the final graded land before the soil horizons are replaced.

(4) Replace the material from the B horizon or other suitable material specified in Paragraph (g)(1)(ii) or (g)(1)(iii) [now Subparagraphs b or c of Paragraph 1 of Subsection G of 19.8.36.36 NMAC] of this Section in such a manner as to avoid excessive compaction of overburden and to a thickness comparable to the root zone that existed in the soil before mining.

(5) Replace the A horizon or other suitable soil materials which will create a final soil having an equal or greater productive capacity than existed prior to mining, as the final surface soil layer to the thickness of the original soil as determined in Paragraph (g)(1)(i) [now Subparagraphs a of Paragraph 1 of Subsection G of 19.8.36.36 NMAC] of this Section in a manner that:

(a) Prevents excess compaction of both the surface layer and underlying material and reduction of permeability to less than 0.06 inch per hour in the upper 20 inches of the reconstructed soil profile; and

(b) Protects the surface layer from wind and water erosion before it is seeded or planted.

(6) Apply nutrients and soil amendments as needed to establish quick vegetative growth.

[Recompiled 6/4/02]

19.8.36.37 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: GENERAL OBLIGATIONS (717.11):

A. Compliance. All underground coal mining and associated reclamation operations conducted on lands where any element of the operations is regulated by a state shall comply with the initial performance standards of this Part.

(1) For the purposes of this Part, underground coal mining and associated reclamation operations mean a combination of surface operations and underground operations. Surface operations include construction, use, and reclamation of new and existing access and haul roads, aboveground repair areas, storage areas, processing areas, shipping areas and areas upon which are sited support facilities including hoist and ventilating ducts, and on which material incident to underground mining operations are placed. Underground operations include underground construction, operation, and reclamation of shafts, adits, underground support facilities, underground mining, hauling, storage and blasting.

(2) For the purpose of this Part the term permittee means the person permitted to conduct underground mining operations by a state or if no permit is issued in the state, the person operating a mine.

(3) For the purpose of this Part, disturbed areas means surface work areas and lands affected by surface operations including, but not limited to, roads, mine entry excavations, above ground (surface) work areas, such as tipples, coal processing facilities and other operating facilities, waste work and spoil disposal areas, and mine waste impoundments or embankments. "Disturbed area" is synonymous with the word's "affected area" used in Sections 1 through 37 [now 19.8.36.8 NMAC through 19.8.36.43 NMAC].

(4) Where state environmental protection standards are adopted for a specific state because they are more stringent than the standards of this part, they will be published in Part 718 of this chapter.

B. Authorizations to operate. A copy of all current permits, licenses, approved plans or other authorizations to operate the mine shall be available for inspection at or near the mine site.

[Recompiled 6/4/02]

19.8.36.38 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: SIGNS AND MARKERS (717.12):

A. Specifications. All signs required to be posted shall be of a standard design that can be seen and read easily and shall be made of durable material and shall conform to local ordinances and codes. The signs and other markers shall be maintained during all operations to which they pertain.

B. Mine and permit identification signs. Signs identifying the mine area shall be displayed at all points of access to the permit area from public highways. Signs shall show the name, business address and telephone number of the permittee and identification numbers of current mining and reclamation permit. Such signs shall not be removed until after release of all bonds.

[Recompiled 6/4/02]

19.8.36.39 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: BACKFILLING AND GRADING OF ROAD CUTS, MINE ENTRY AREA CUTS AND OTHER SURFACE WORK AREAS (717.14):

A. Upon completion of underground mining, surface work areas which are involved in excavation, disposal of materials or otherwise affected, shall be regraded to approximate original contour. The permittee shall transport, backfill and compact fill material to assure stability or to prevent leaching of toxic pollutants. Barren rock or similar materials excess to the mining operations and which are disposed on the land surface shall be subject to the provision of Section 717.15 of this Part. Roads and support facility areas existing prior to the effective date of this Part and used in support of underground mining operations which are subject to this Part shall be regraded to the extent deemed feasible by the regulatory authority based on the availability of backfill material and resulting stability of the affected lands after reclamation. As a minimum, the permittee shall be required to:

(1) Retain all earth, rock and other mineral nonwaste materials on the solid portion of existing or new benches, except that the regulatory authority may permit placement of such material at the site of the faceup as a means of disposing of excavated spoil when additional working space is needed to facilitate operations. Such placement of material shall be limited to minimize disturbance of land and to the hydrologic balance. Such fills shall be stabilized with vegetation and shall achieve a minimum static safety factor of 1.5. In no case shall the outslope exceed the angle of repose.

(2) Backfill and grade to the most moderate slope possible to eliminate any highwall along roads, mine entry faces or other areas. Slopes shall not exceed the angle of repose or such lesser slopes as required by the regulatory authority to maintain stability.

B. On approval by the regulatory authority and in order to conserve soil moisture, ensure stability, and control erosion on final graded slopes, cut-and-fill terraces may be allowed if the terraces are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(1) The width of the individual terrace bench shall not exceed 20 feet unless specifically approved by the regulatory authority as necessary for stability erosion control or roads.

(2) The vertical distance between terraces shall be as specified by the regulatory authority to prevent excessive erosion and to provide long-term stability.

(3) The slope of the terrace outslope shall not exceed 1v:2h (50 percent). Outslopes which exceed 1v:2h (50 percent) may be approved if they have a minimum static safety factor of 1.5 or more and provide adequate control over erosion and closely resemble the surface configuration of the land prior to mining. In no case may highwalls be left as part of terraces.

(4) Culverts and underground rock drains shall be used on the terrace only when approved by the regulatory authority.

C. All surface operations on steep slopes of 20 degrees or more or on such lesser slopes as the regulatory authority define as a steep slope shall be conducted so as not to place any material on the downslope below road cuts, mine working or other benches, other than in conformance with Paragraph (a)(1) [now Paragraph 1 of Subsection A of 19.8.36.39 NMAC] of this Part.

D. Regrading or stabilizing rills and gullies. When rills or gullies deeper than 9 inches form in areas that have been regraded and the topsoil replaced but vegetation has not yet been established, the permittee shall fill, grade or otherwise stabilize the rills and gullies and reseed or replant the areas according to Section 717.20. The regulatory authority shall specify that erosional features of lesser size be stabilized if they result in additional erosion

and sedimentation.

E. Covering coal and acid-forming, toxic-forming, combustible and other waste materials; stabilizing backfilled materials; and using waste material for fill. Any acid-forming, toxic-forming, combustible materials, or any other waste materials as identified by the regulatory authority that are exposed, used, or produced during underground mining and which are deposited on the land surface shall, after placement in accordance with Section 717.15 of this Part, be covered with a minimum of 4 feet of non-toxic and non-combustible material; or, if necessary, treated to neutralize toxicity, in order to prevent water pollution and sustained combustion, and to minimize adverse effects on plant growth and land uses. Where necessary to protect against upward migration of salts, exposure by erosion, to provide an adequate depth for plant growth, or to otherwise meet local conditions, the regulatory authority shall specify thicker amount of cover using nontoxic material. Acid-forming or toxic-forming material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution or otherwise violate the provisions of Section 717.17 of this Part.

F. Grading along the contour. All final grading, preparation of earth, rock and other nonwaste materials before replacement of topsoil, and placement of topsoil in accordance with Section 717.20 shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation or placement along the contour would be hazardous to equipment operators, grading, preparation or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage. [Recompiled 6/4/02]

19.8.36.40 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: DISPOSAL OF EXCESS ROCK AND EARTH MATERIALS ON SURFACE AREAS (717.15):

Excess rock and earth materials produced from an underground mine and not disposed in underground workings or used in backfilling and grading operations shall be placed in surface disposal areas in accordance with requirements of Section 715.15. Where the volume of such material is small and its chemical and physical characteristics do not pose a threat to either public safety or the environment the regulatory authority may modify the requirements of Section 715.15 in accordance with Section 717.14(a)(1).

[Recompiled 6/4/02]

19.8.36.41 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: PROTECTION OF THE HYDROLOGIC SYSTEM (717.17):

The permittee shall plan and conduct underground coal mining and reclamation operations to minimize disturbance of the prevailing hydrologic balance in order to prevent long-term adverse changes in the hydrologic balance that could result from underground coal mining operations, both on and off site. Changes in water quality and quantity, in the depth to ground water, and in the location of surface water drainage channels shall be minimized and applicable Federal and State statutes and regulations shall not be violated. The permittee shall conduct operations so as to minimize water pollution and shall, where necessary, use treatment methods to control water pollution. The permittee shall emphasize underground coal mining and reclamation practices that will prevent or minimize water pollution and changes in flows in preference to the use of water treatment facilities prior to discharge to surface waters. Practices to control and minimize pollution include, but are not limited to, diverting water from underground workings or preventing water contact with acid or toxic-forming materials, and minimizing water contact time with waste materials, maintaining mine barriers to enhance postmining inundation and sealing, establishing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, and lining drainage channels. If treatment is required to eliminate pollution of surface or ground waters, the permittee shall operate and maintain the necessary water treatment facilities as set forth in this section.⁴ ⁽⁴⁾The standards in Section 717.17(a) will be enjoined to the extent that they supersede, amend, repeal or modify the provisions of the Federal Water Pollution Control Act and its regulations.

A. Water quality standards and effluent limitations. All surface drainage from the disturbed areas, including disturbed areas that have been graded, seeded or planted and which remain subject to the requirements of this section, except for drainage from disturbed areas that have met the requirements of Section 717.20 shall be passed through a sedimentation pond or a series of sedimentation ponds prior to leaving the permit area. All waters which flow or are removed from underground operations or underground waters which are removed from other areas to facilitate mining and which discharge to surface waters must be passed through appropriate treatment facilities prior to discharge where necessary to meet effluent limitations. For purposes of this section only, disturbed areas shall include areas of surface operations but shall not include those areas in which only diversion ditches, sedimentation ponds or roads are installed in accordance with this section and the upstream area is not otherwise

disturbed by the permittee. Disturbed areas shall not include those surface areas overlying the underground working unless those areas are also disturbed by surface operations such as fill (disposal) areas, support facilities areas or other major activities which create a risk of pollution. The regulatory authority may grant exemptions from this requirement only when the disturbed drainage area within the total disturbed area is small and if the permittee shows that sedimentation ponds are not necessary to meet effluent limitations of this paragraph and to maintain water quality in downstream receiving waters. Sedimentation ponds required by this paragraph shall be constructed in accordance with Paragraph (e) [now Subsection E of 19.8.36.41 NMAC] of this Section in appropriate locations prior to any mining in the affected drainage area in order to control sedimentation or otherwise treat water in accordance with this paragraph. Discharges from areas disturbed by underground operation and by surface operation and reclamation activities conducted thereon, must meet all applicable federal and state regulations and, at a minimum, the following numerical effluent limitations:

EFFLUENT LIMITATIONS IN MILLIGRAMS PER LITER

mg/l, Except For pH

Effluent characteristics	Maximum Allowable ¹	Average of daily values for 30 consecutive discharge days ¹
Iron, total _ _ _ _ _	7.0	3.5
Manganese, total _ _ _	4.0	2.0
Total suspended solids pH ²	70.0	35.0
	Within the range 6.0 to 9.0 _ _ _ _ _	

¹ Based on representative sampling.

² Where the application of neutralization and sedimentation treatment technology results in inability to comply with the manganese limitations set forth, the regulatory authority may allow the pH level in the discharge to exceed to a small extent the upper limit of 9.0 in order that the manganese limitations will be achieved.

(1) Any overflow or other discharge of surface water from the disturbed area within the permit area demonstrated by the permittee to result from a precipitation event larger than the 10-year 24-hour frequency event will not be subject to the effluent limitations of paragraph (a) [Subsection A of 19.8.36.41 NMAC].

(2) The permittee shall install, operate, and maintain adequate facilities to treat any water discharged from the disturbed area that violates applicable federal or state regulations or the limitations of Paragraph (a) [now Subsection A of 19.8.36.41 NMAC]. If the pH of waters to be discharged from the disturbed area is normally less than 6.0, an automatic lime feeder or other neutralization process approved by the regulatory authority shall be installed, operated and maintained. If the regulatory authority finds that small and infrequent treatment requirements to meet applicable standards do not necessitate use of an automatic neutralization process, and the mine normally produces less than 500 tons of coal per day, the regulatory authority can approve the use of a manual system if the permittee agrees to ensure that consistent and timely treatment is carried out.

B. Surface water monitoring.

(1) The permittee shall submit for approval by the regulatory authority a surface water monitoring program which meets the following requirements:

- (a) Provides adequate monitoring of all discharge from the disturbed area and from the underground operations.
- (b) Provides adequate data to describe the likely daily and seasonal variation in discharges from the disturbed area in terms of flow, pH, total iron, total manganese and total suspended solids and as requested by the regulatory authority, any other parameter characteristic of the discharge.
- (c) Provides monitoring at appropriate frequencies to measure normal and abnormal variations in concentrations.
- (d) Provides an analytical quality control system including standard methods of analysis such as

those specified in 40 CFR 136.

(e) Provides regular reports of all measurements to the regulatory authority within 60 days of sample collection unless violations of permit conditions occur in which case the regulatory authority shall be notified immediately after receipt of analytical results by the permittee. If the discharge is subject to regulation by a federal or state permit issued in compliance with section 301 of the Federal Water Pollution Control Act Amendment of 1972 (33 U.S.C. Section 1311), a copy of the completed reporting form supplied to meet the permit requirements may be submitted to the regulatory authority to satisfy the reporting requirements if the data meet the frequency and other requirements of this paragraph.

(2) Equipment, structures or other measures necessary to accurately measure and sample the quality and quantity of surface water discharges from the disturbed area of the permit area shall be properly installed, maintained and operated and shall be removed when no longer required.

C. Diversion and conveyance of overland flow away from disturbed areas. In order to minimize erosion and to prevent or remove water from contacting toxic-producing deposits, overland flow from undisturbed areas may, as required or approved by the regulatory authority, be diverted away from disturbed areas by means of temporary or permanent diversion structures. The following requirements shall be met for such diversions:

(1) Temporary diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a one year recurrence interval, or a larger event as specified by the regulatory authority. The design criteria must assure adequate protection of the environment and public during the existence of the temporary diversion structure.

(2) Permanent diversion structures are those remaining after mining and reclamation and approved for retention by the regulatory authority and other appropriate state and federal agencies. To protect fills and property, to prevent water from contacting toxic-producing deposits, and to avoid danger to public health and safety, permanent diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a 100-year recurrence interval or a larger event as specified by the regulatory authority. Permanent diversion structures shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete or other similar linings shall not be used unless specifically required to prevent seepage or to provide stability and they are approved by the regulatory authority.

(3) Diversions shall be designed, constructed and maintained in a manner so as to prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall such contributions be in excess of requirements set by applicable State or Federal law. Appropriate sediment control measures for these diversions shall include, but not be limited to, maintenance of appropriate gradients, channel lining, vegetation and roughness structures and detention basins.

D. Stream channel diversions. In the event that the regulatory authority permits diversion of streams, the regulations of Section 715.17(d) shall apply.

E. Sediment control measures⁵. Appropriate sediment control measures shall be designed, constructed, and maintained to prevent additional contributions of sediment to streamflow or to runoff outside the permit area to the extent possible, using the best technology currently available. ⁵The standards in Section 717.17(e) will be preliminarily enjoined.

(1) Sediment control measures include practices carried out within and adjacent to the disturbed area. The scale of downstream practices shall reflect the degree to which successful techniques are applied at the sources of the sediment. Sediment control measures consist of the utilization of proper mining, reclamation methods and sediment control practices (singly or in combination) including but not limited to:

(a) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading and timely revegetation;

(b) Consistent with the requirements of Sections 715.14 and 715.15 of this chapter shaping the backfill material to promote a reduction of the rate and volume of runoff;

(c) Retention of sediment within the pit and disturbed area;

(d) Diversion of overland and channelized flow from undisturbed areas around or in protected crossings through the disturbed area;

(e) Utilization of straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds and other measures that reduce overland flow velocity, reduce runoff volume or entrap sediment;

(f) Sedimentation ponds.

(2) Sedimentation ponds may be used individually or in series, should be located as near as possible to the disturbed area and where possible out of major stream courses, and shall (either individually or in a series)

meet the following criteria:

(a) Sedimentation ponds must provide 24 hour theoretical detention time for the inflow or runoff entering the pond(s) from a 10 year, 24-hour precipitation event. Runoff diverted, in accordance with Paragraphs (c) and (d) [now Subsections C and D of 19.8.36.41 NMAC] of this Section, away from the disturbed drainage areas need not be considered in sedimentation pond design. In determining the runoff volume the characteristics of the mine site, reclamation procedures and on-site sediment control practices shall be considered.

(b) Upon approval of the regulatory authority theoretical detention time may be reduced to not less than 10 hours, as demonstrated by the permittee, equal to the improvement in sedimentation removal efficiency as a result of pond design including but not limited to pond configuration, inflow outflow facilities and their relative location, baffles to decrease inflow velocity and short circuiting, a surface area sufficient to achieve the sediment trap efficiency necessary to meet effluent limitations (Sec. 715.17 (a)) and sediment control measures provided in Section 715.17(e)(1).

(c) The regulatory authority may approve a detention time less than the time required by Paragraph (e) (2) (i) or (ii) [now Subparagraphs an or b of Paragraph 2 of Subsection E of 19.8.36.41 NMAC] of this Section, when the permittee has demonstrated that the size distribution or the specific gravity of the suspended matter or the utilization of chemical treatment or flocculation are such that the effluent limitations can be met. The detention time shall be stipulated.

(3) An additional sediment storage volume must be provided equal to 0.2 acre-feet for each acre of disturbed area within the upstream drainage area. Upon approval of the regulatory authority, the sediment storage volume may be reduced in an amount as demonstrated by the permittee equal to the sediment removed by other appropriate sediment control measures such as those identified in Paragraph (e)(1) [now Paragraph 1 of Subsection E of 19.8.36.41 NMAC] of this Section, or by lesser sediment yields as evidenced by empirical data for runoff characteristics.

(4) Ponds may be of the permanent pool or self-dewatering type. Dewatering-type ponds shall use siphon or other dewatering methods approved by the regulatory authority to prevent discharges of pollutants within the design flow.

(5) Spillway systems shall be properly located to maximize the distances from the point of inflow into the pond to maximize detention times. Spillway systems shall be provided to safely discharge the peak runoff from a precipitation event with a 25-year recurrence interval, or larger event as specified by the regulatory authority.

(6) Sediment shall be removed from sedimentation ponds so as to assure maximum sediment removal efficiency and attainment and maintenance of effluent limitations. Sediment shall be disposed of in a manner that minimizes adverse effects on surface waters due to its chemical and physical characteristics, on infiltration, vegetation or surface or ground water quality.

(7) If a sedimentation pond includes an embankment that is more than 20 feet in height, as measured from the downstream toe of the embankment to the top of the embankment or has a storage volume of 20 acre-feet or more, the following additional requirements shall be met:

(a) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff resulting from a 100-year-6-hour precipitation event, or larger event as specified by the regulatory authority.

(b) Ponds shall be designed and constructed with an acceptable static safety factor of at least 1.5 for the normal pool level to ensure embankment slope stability.

(c) The minimum top width of the embankment shall not be less than the quotient of $H+35/5$ where H is the height of the embankment as measured from the downstream toe to the top of the embankment.

(d) Ponds shall have appropriate barriers to control seepage along conduits that extend through the embankment.

(8) All ponds shall be designed and inspected under the supervision of, and certified after construction by a professional engineer registered in the state of New Mexico.

(9) All ponds, including those not meeting the size or other criteria of Section 77.216(a) of this title, shall be examined for structural weakness, erosion and other hazardous conditions in accordance with the inspection requirements contained in Section 77.216-3 of this title.

(10) All ponds shall be removed and the land affected regraded and revegetated consistent with the requirements of Sections 717.14 and 717.20.

F. Discharge structures. Discharges from sedimentation ponds and diversion structures shall be controlled, where necessary, using energy dissipators, surge ponds and other devices to reduce erosion and prevent deepening or enlargement of stream channels and to minimize disturbances to the hydrologic balance.

G. Acid and toxic materials. Drainage to ground and surface waters which emanates from acid-forming or toxic-forming mine waste materials and spoils placed on the land surface shall be avoided by:

(1) Identifying, burying and treating where necessary, spoil or other materials that, in the judgment of the regulatory authority, will be toxic to vegetation or that will adversely affect water quality if not treated or buried. Such material shall be disposed in accordance with the provision of Section 717.14(e);

(2) Preventing or removing water from contact with toxic-producing deposits;

(3) Burying or otherwise treating all toxic or harmful materials within 30 days if such materials are subject to wind and water erosion or within a lesser period designated by the regulatory authority. If storage of such materials is approved, the materials shall be placed on impermeable material and protected from erosion and contact with surface water. Coal waste ponds and other coal waste materials shall be maintained according to Sections 717.17(g)(4) and 717.18 shall apply;

(4) Burying or otherwise treating waste materials from coal preparation plants no later than 90 days after the cessation of the filling of the disposal area. Burial or treatment shall be in accordance with Section 717.14(e) of this Part;

(5) Casing, sealings or otherwise managing boreholes, shafts, wells and auger holes or other more or less horizontal holes to prevent pollution of surface or ground water and to prevent mixing of ground waters or significantly different quality. All boreholes that are within the permit area but are outside the surface coal mining area or which extend beneath the coal to be mined and into water-bearing strata shall be plugged permanently in a manner approved by the regulatory authority, unless boreholes have been approved for use in monitoring.

H. Ground water systems.

(1) Underground operations shall be conducted to minimize adverse effects on ground water flow and quality, and to minimize off-site effects. The permittee will be responsible for performing monitoring according to Subparagraph (2) [now Paragraph 2 of Subsection H of 19.8.36.41 NMAC] of this paragraph to ensure operations conform to this requirement.

(2) Ground water levels subsurface flow and storage characteristics, and the quality of ground water shall be monitored in a manner approved by the regulatory authority to determine the effects of underground coal mining operations on the quantity and quality of water in ground water systems at the mine area and in associated offsite areas. When operations are conducted in such a manner that may affect the ground water system, ground water levels and ground water quality shall be periodically monitored using wells which can adequately reflect changes in ground water quantity and quality resulting from such operations. Sufficient water wells must be used by the permittee. The regulatory authority may require drilling and development of additional wells if needed to adequately monitor the ground water system. As specified and approved by the regulatory authority, additional hydrologic tests, such as aquifer tests, must be undertaken by the permittee to demonstrate compliance with Subparagraph (1) [now Paragraph 1 of Subsection H of 19.8.36.41 NMAC] of this Paragraph.

I. Water rights and replacement. The permittee shall replace the water supply of an owner of interest in real property who obtains all or part of his supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source where such supply has been affected by contamination, diminution, or interruption proximately resulting from surface coal mine operation by the permittee.

J. Hydrologic impact of roads.

(1) General. Access and haul roads and associated bridges, culverts, ditches and road rights-of-way shall be constructed, maintained and reclaimed so as to the extent possible, using the best technology currently available, prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available. In no event shall the contributions be in excess of requirements set by applicable state or federal law. All haul and access roads shall be removed and the land affected shall be regraded and revegetated consistent with the requirements of Sections 717.14 and 717.20, unless retention of a road is approved and assured of necessary maintenance to adequately control erosion.

(2) Construction.

(a) All roads, insofar as possible, shall be located on ridges or on flatter and more stable slopes to minimize erosion. Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes across dry streams that will not adversely affect sedimentation and that will not be used for coal haulage. Other stream crossings shall be made using bridges, culverts or other structures designed and constructed to meet the requirements of this Paragraph. Roads shall not be located in active stream channels nor shall they be constructed or maintained in a manner that increases erosion or causes significant sedimentation or flooding. However, nothing in this paragraph will be construed to prohibit relocation of stream channels in accordance with Paragraph (d) [now Subsection D of 19.8.36.41 NMAC] of this Section.

(b) In order to minimize erosion and subsequent disturbances of the hydrologic balance, roads shall be constructed in compliance with the following grade restrictions or other grades determined by the regulatory authority to be necessary to control erosion:

(i) The overall sustained grade shall not exceed 1v:10h (10 percent).

(ii) The maximum grade greater than 10 percent shall not exceed 1v:6.5h (15 percent) for more than 300 feet.

(iii) There shall not be more than 300 feet of grade exceeding 10 percent within each 1,000 feet.

(c) All access and haul roads shall be adequately drained using structures such as, but not limited to, ditches, water barriers, cross drains and ditch relief drains. For access and haul roads that are to be maintained for more than 1 year, water-control structures shall be designed with a discharge capacity capable of passing the peak runoff from a 10-year, 24-hour precipitation event. Drainage pipes and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets. Drainage ditches shall be provided at the toe of all cut slopes formed by construction of roads. Trash racks and debris basins shall be installed in the drainage ditches wherever debris from the drainage area could impair the functions of drainage and sediment control structures. Ditch relief and cross drains shall be spaced according to grade. Effluent limitations of Paragraph (a) [now Subsection A of 19.8.36.41 NMAC] of this Section shall not apply to drainage from access and haul roads located outside the disturbed area as defined in this section unless otherwise specified by the regulatory authority.

(d) Access and haul roads shall be surfaced with durable material. Toxic- or acid-forming substances shall not be used. Vegetation may be cleared only for the essential width necessary for road and associated ditch construction and to serve traffic roads.

(3) Maintenance.

(a) Access and haul roads shall be routinely maintained by means such as, but not limited to, wetting, scraping or surfacing.

(b) Ditches, culverts, drains, trash racks, debris basins and other structures serving to drain access and haul roads shall not be restricted or blocked in any manner that impedes drainage or adversely affects the intended purpose of the structure.

(4) Access roads constructed for and used only to provide infrequent service to surface facilities, such as ventilators or monitoring devices shall be exempt from the requirements of Subparagraph (2) [now Paragraph 2 of Subsection J of 19.8.36.41 NMAC] of this Paragraph provided adequate stabilization to control erosion is achieved through use of alternative measures.

K. Hydrologic impacts of other transport facilities. Railroad loops, spurs, conveyors or other transport facilities shall be constructed, maintained and reclaimed to prevent additional contributions of suspended solids to streamflow, or to runoff outside the permit area to the extent possible, using the best technology currently available and to control other diminution or degradation of water quality and quantity. In no event shall contributions be in excess of requirements set by applicable state or federal law. Discharge of waters into underground mines. Surface and ground waters shall not be discharged or diverted into underground mine workings.

[Recompiled 6/4/02]

19.8.36.42 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: DAMS CONSTRUCTED OF WASTE MATERIAL (717.18):

A. General. No waste material shall be used in existing or new dams without the approval of the regulatory authority. The permittee shall design, locate, construct, operate, maintain, modify and abandon or remove all dams (used either temporarily or permanently) constructed of waste materials in accordance with the requirements of this Section.

B. Construction of dams.

(1) Waste shall not be used in the construction of dams unless demonstrated through appropriate engineering analysis to have no adverse effect on stability.

(2) Plans for dams subject to this Section, and also including those dams that do not meet the size or other criteria of Section 77.216(a) of this title, shall be approved by the regulatory authority before construction and shall contain the minimum plan requirements established by the mining enforcement and safety administration pursuant to Section 77.216-2 of this title.

(3) Construction requirements are as follows:

(a) Design shall be based on the flood from the probable maximum precipitation event unless the permittee shows that the failure of the impounding structure would not cause loss of life or severely damage

property or the environment, in which case, depending on site conditions, a design based on a precipitation event of no less than 100-year frequency may be approved by the regulatory authority.

(b) The design freeboard distance between the lowest point on the embankment crest and the maximum water elevation shall be at least 3 feet to avoid overtopping by wind and wave action.

(c) Dams shall have minimum safety factors as follows:

Case	Loading condition	Minimum safety factor
I _____	End of construction _____	1.3
II _____	Partial pool with steady seep-age saturation	1.5
III _____	Steady seepage from spillway or decant crest	1.5
IV _____	Earthquake (cases II and III with seismic loading)	1.0

(d) The dam, foundation and abutments shall be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the factors of safety of the dam for all loading conditions in Paragraph (b)(3)(ii) [now Subparagraph b of Paragraph 3 of Subsection B of 19.8.36.42 NMAC] of this Section and for all increments of construction.

(e) Seepage through the dam, foundation and abutments shall be controlled to prevent excessive uplift pressures, internal erosion, sloughing, removal of material by solution or erosion of material by loss into cracks, joints and cavities. This may require the use of impervious blankets, pervious drainage zones or blankets, toe drains, relief wells or dental concreting of jointed rock surface in contact with embankment materials.

(f) Allowances shall be made for settlement of the dams and the foundation so that the freeboard will be maintained.

(g) Impoundments created by dams of waste materials shall be subject to a minimum drawdown criteria that allows the facility to be evacuated by spillways or decants of 90 percent of the volume of water stored during the design precipitation event within 10 days.

(h) During construction of dams subject to this Section, the structures shall be periodically inspected by a registered professional engineer to ensure construction according to the approved design. On completion of construction the structure shall be certified by a professional engineer registered in the State of New Mexico, experienced in the field of dam construction as having been constructed in accordance with accepted professional practice and the approved design.

(i) A permanent identification marker, at least 6 feet high that shows the dam number assigned pursuant to Section 77.216-1 of this title and the name of the person operating or controlling the dam, shall be located on or immediately adjacent to each dam within 30 days of certification of design pursuant to this Section.

(4) All dams, including those not meeting the size or other criteria of Section 77.216(a) of this title, shall be routinely inspected by a registered professional engineer, or someone under the supervision of a registered professional engineer, in accordance with mining enforcement and safety administration regulations pursuant to Section 77.216-3 of this title.

(5) All dams shall be routinely maintained. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible materials present on the surface, other than that used for surface stability such as mulch or dry vegetation shall be removed and any other appropriate maintenance procedures followed.

(6) All dams subject to this section shall be recertified annually as having been constructed and modified in accordance with current prudent engineering practices to minimize the possibility of failures. Any changes in the geometry of the impounding structure shall be highlighted and included in the annual recertification report. These certifications shall include a report on existing and required monitoring procedures and instrumentation, the average and maximum depths and elevations of any impounded waters over the past year, existing storage capacity of impounding structures, any fires occurring in the material over the past year and any

other aspects of the structures affecting their stability.

(7) Any enlargements, reductions in size, reconstruction or other modification of the dams shall be approved by the regulatory authority before construction begins.

(8) All dams shall be removed and the disturbed areas regraded, revegetated and stabilized before the release of bond unless the regulatory authority approves retention of such dams as being compatible with an approved postmining land use (Section 715.13).

[Recompiled 6/4/02]

19.8.36.43 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: TOPSOIL HANDLING AND REVEGETATION (717.20):

A. Topsoil shall be removed as a separate operation from areas to be disturbed by surface operations such as roads and areas upon which support facilities are to be sited. Selected overburden materials may be used instead of, or as a substitute for topsoil where the resulting soil medium is determined by the regulatory authority to be equal to or more suitable for revegetation. Topsoil shall be segregated, stockpiled, and protected from wind and water erosion or contaminants. Disturbed areas no longer required for the conduct of mining operations shall be regraded, topsoil distributed and revegetated.

B. The permittee shall establish on all land that has been disturbed by mining operations a diverse, effective and permanent vegetative cover capable of self-regeneration and plant succession, and adequate to control soil erosion. Introduced species may be substituted for native species if approved by the regulatory authority. Introduced species shall meet applicable State and Federal seed or introduced species statutes, and may not include poisonous or potentially toxic species.

[Recompiled 6/4/02]

19.8.36.44 UNDERGROUND MINING GENERAL PERFORMANCE STANDARDS: COAL

EXPLORATION: Prior to conducting any exploration, any person must file with the Director notice of intention to explore and such notice shall include a description of the exploration area and the period of supposed exploration; and provisions for reclamation in accordance with the performance standards in Section 19 of the Surfacemining Act of all lands substantially disturbed in exploration, including excavation, roads, drill holes and the removal of the necessary facilities and equipment.

[Recompiled 6/4/02]

19.8.36.45 APPROVED:

D.E. Gray
Chairman
New Mexico Coal Surfacemining Commission

HISTORY OF 19.8.36 NMAC:

Pre-NMAC History:

CSMC Rule 79-1, New Mexico Coal Surfacemining Regulations, 2-12-85.

History of Repealed Material: [RESERVED]